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Air Quality Monitoring in Victorian and Bloomington, Texas

Radian Corp, Austin, Tex

Prepared for

Environmental Protection, Agency, Dallas, Tex Surveillance and Analysis Div

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EPA 906/9-78-001

AIR QUALITY MONITORING IN
VICTORIA AND BLOOMINGTON, TEXAS

FINAL REPORT

Prepared by:
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Contract No. 68-02-2538, Task Order No. 2

Prepared for:
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commercial cylinder of NO in nitrogen, referenced to the SRM used for multi-point calibrations, was used as the source for daily span values.

Multi-point calibrations and audits were performed on the Bendix chromatograph using a SRM cylinder of total hydrocarbons and methane referenced to NBS standards. A commercial cylinder of total hydrocarbons and methane in air was used for daily spanning of the instrument. This cylinder was referenced to the SRM cylinder.

The instruments at each site were multi-point calibrated at the beginning of, midway through, and at the conclusion of the data collection period. Weekly audits were conducted at each station by Radian Quality Assurance personnel. Two EPA audits were conducted at each station during the study.

For the audits, all reagents, gases, glassware, audit equipment, and audit personnel were different than that involved in the routine calibrations and operations of the stations.

The analyzers at each site were zeroed and spanned daily. The zero and span response was used to update the ambient data for all parameters except ozone. For ozone, the analyzer is considered to be more stable than the internal source. Therefore, ozone drift is assumed more likely to be caused by source output drift than analyzer response drift. The ozone ambient data was, therefore, only corrected for zero drift, and not for span drift. The span drift was, however, used as input for validating purposes.

In addition to the above features, the quality assurance program for this study also included the following features:

- 1) The inside station temperature was continuously monitored to insure that the instruments had a stable environment. If the interior temperature became too high, the station was shut down automatically to protect the instruments. At no time during the course of the study did the temperature vary outside the limits for acceptable data.
- 2) Line voltage was continuously monitored to detect if there were any drops or surges that might affect instrument performance.
- 3) All flows were checked using either NBS-certified bubblemeters or mass flow controllers that had been referenced to NBS-certified bubblemeters.
- 4) The air sampling manifold was heated slightly to prevent water condensation. A high flow rate was maintained to minimize residence time. All system components were glass or Teflon.
- 5) A sensor was mounted in the sample line to signal the computer if the manifold fan malfunctioned.
- 6) Both stations were visited daily by trained personnel.
- 7) Detailed logbooks were maintained in each station.

- 8) A hardcopy printout of all data was provided hourly at each station. Data were checked daily for indications of problems.
- 9) The data acquisition system was totally automated to eliminate human errors.
- 10) The discrimination of the data acquisition system exceeded that of the analyzers.
- 11) The computer was equipped with automatic restart after power failures. The analyzers also restarted automatically. The time and duration of the power failure were recorded and printed on the hard copy.
- 12) Statistical significance of the data was assured by sampling all data channels once per second. Five-minute averages were calculated and stored.
- 13) The computer monitored and controlled many parts of the system. Problems were indicated visually by lights in the System Status Panel and by the hardcopy printout. All problem indications were also recorded on cassette tapes. Examples of monitored parameters include:
 - (a) excess zero drift
 - (b) excess span drift
 - (c) shelter temperature
 - (d) line voltage
 - (e) manifold fan operation
 - (f) manifold temperature
 - (g) instrument power

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This air pollution report is issued by Region VI Environmental Protection Agency, to assist state and local air pollution control agencies in carrying out their program activities. Copies of this report may be obtained, for a nominal cost, from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22151.

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INTRODUCTION

The objective of this project was to collect and compile ambient air quality data for Victoria and Bloomington, Texas. The study was conducted under Task Order No. 2 of Basic Ordering Agreement No. 68-02-2538. Ambient data was collected at both sites for the period 24 September to 7 November, 1977.

The Victoria station (Trailer 008) was located in west central Victoria at a municipal park. Data was collected for ozone, oxides of nitrogen, wind speed, wind direction, and ambient temperature. The Bloomington site (Trailer 019) was approximately sixteen miles southeast of the Victoria station. Ambient concentrations of ozone, oxides of nitrogen, total hydrocarbons, and methane were measured at Bloomington. Wind speed, wind direction, and temperature were also recorded. The site was located outside of Bloomington, just off highway 185, in a relatively open field area.

A quality assurance program was established for each trailer to insure data validity. Included as part of the quality assurance activities were periodic multi-point calibrations of the ambient monitoring instruments, daily instrument zeroes and spans, weekly internal audits conducted by Radian Quality Assurance personnel, external audits conducted by EPA personnel, and proper documentation of all activities.

In addition to the routine monitoring at, a two-week period of bag sampling was conducted at each site. Bag samples were collected daily from 6 a.m. to 9 a.m. during this period and returned to Radian's Austin laboratories. Each bag sample was analyzed for hydrocarbons on a Tracor Model 560 chromatograph.

Section 2 of this report discusses the air quality and meteorological instrumentation used on this study, the calibration equipment, and the data acquisition system. Section 3 discusses Quality Assurance procedures. Section 4 gives a brief description of each site, and Section 5 presents the data summaries for each site, including calibration results, audit results, bag sampling results, and down time analyses.

2.0

INSTRUMENTATION

This section discusses the major components of the monitoring station, consisting of air quality and meteorological instrumentation, and a computer-controlled data system housed in a twenty-six foot, fifth-wheel trailer. Figure 2-1 shows a typical configuration of the monitoring station. This station maintains a stable temperature environment ($\pm 5^{\circ}\text{F}$) for the correct operation of all instruments.

2.1

Air Quality and Meteorological Instrumentation

The Meloy Laboratories Model OA350-2R Ozone Analyzer was used to measure ozone. This instrument continuously measures ozone by the chemiluminescent principle and is EPA-approved as an equivalent method for ozone. The instrument was operated on the approved range of 0-500 ppb at each station.

The Meloy Laboratories Model NA520 Oxides of Nitrogen Analyzer was used to measure NO and NO_x. This instrument uses the chemiluminescent principle of analysis and has dual channels to continuously monitor the NO and NO_x. NO₂ is obtained by subtraction in the data system. The Model NA520 was operated on the 0-500 ppb range at each station.

A Bendix Model 8200 Environmental Chromatograph was used to sample for methane and total hydrocarbons at the Bloomington station. This instrument operates on the flame ionization principle. The operating range was 0-10,000 ppb.

The air sample was drawn through a 25 mm diameter glass cane and manifold manufactured by the Ace Glass Company. A constant air flow through the manifold was maintained by an

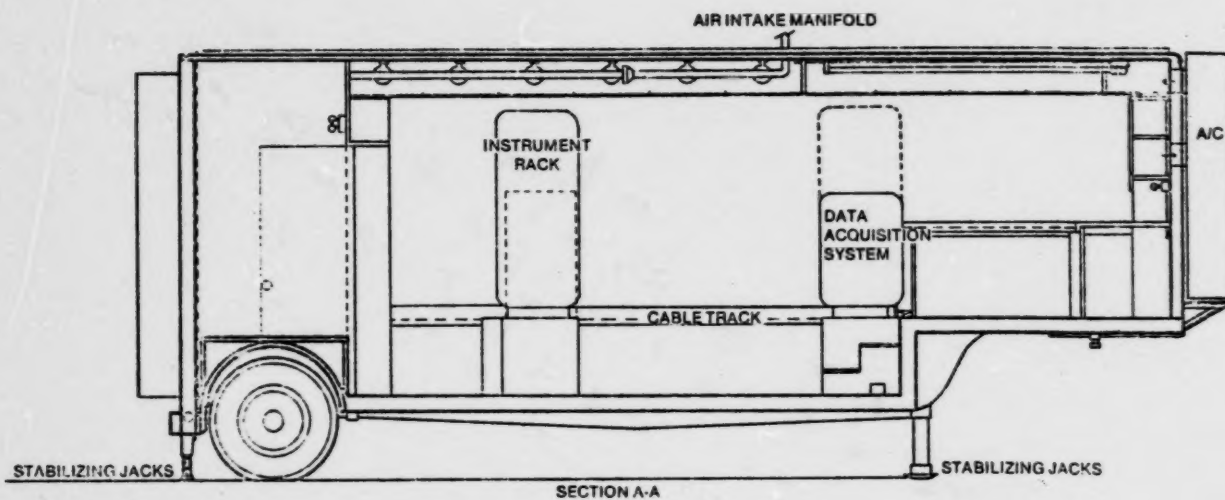
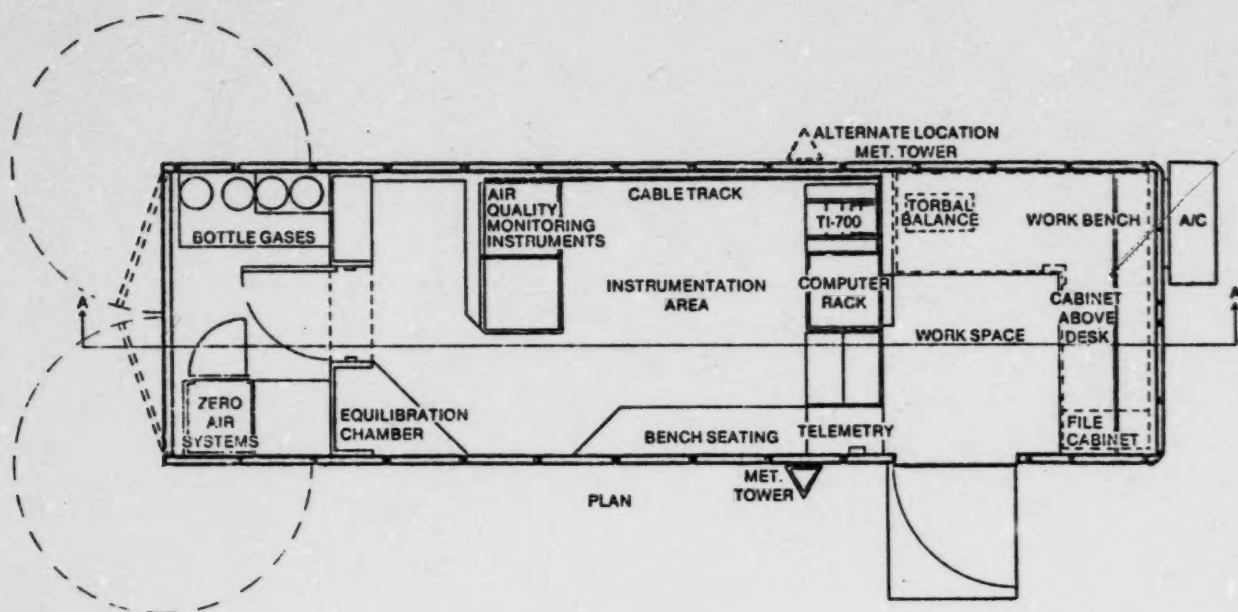


Figure 2-1. Typical Configuration of Monitoring Station

air pump rated at 60 cfm at 0" head pressure. The instruments were connected to the sample manifold using $\frac{1}{4}$ " teflon lines. All joints in the sampling system were secured by O-ring compression fittings. The manifold was contained in a heated (100°F) chamber to prevent condensation of moisture.

The meteorological instrumentation at Trailers 008 and 019 consisted of a cup anemometer, a wind vane, and a temperature sensor. At each trailer site, the meteorological instrumentation was mounted atop a 33-foot retractable tower, the Model WM-33 Crank-Up Tower, by Weather Measure.

The anemometer used was the Model W103 Cup Anemometer by Weather Measure. This is a high response, low threshold wind system which offers the optimum in versatility and economy. Both the anemometer and vane housings are cast from a special aluminum alloy and are aged before machining. Surfaces are anodized after machining. Sealed and shielded stainless steel, permanently lubricated bearings and stainless steel precision ground shafts are used exclusively. The anemometer has an accuracy of ± 0.15 mile per hour, whichever is greater. The threshold is 0.6 mile per hour, the distance constant is 5 feet, and the recording range is from 0 to 100 miles per hour.

The wind vane employed was the Model W105-2 Light Weight Vane by Weather Measure. This vane features a special low density, high structural strength foam plastic tail coated with a high density epoxy and bonded to a stainless steel rod. A 1000 ohm low torque wire-wound potentiometer, supplied with two wipers for a 0° to 540° system, is standard. The response characteristics of the W104-2 are:

- Dead Band: 0 degrees
- Damping Ratio: 0.4
- Distance Constant: 3.5 feet
- Threshold: 0.75 mile per hour
- Potentiometer Linearity: $\pm 0.5\%$
- Range: 0 to 540 degrees.

The outside temperature was measured by means of a YSI Precision Interchangeable Thermistor, Model 44018, by Yellow Springs Instrument Company. The thermistor accuracy and interchangeability is $\pm 0.15^{\circ}\text{C}$, and it has a linearity deviation of $\pm 0.16^{\circ}\text{C}$. This sensor is shielded from solar radiation by means of a Model TT-102 Radiation Shield, made by Texas Electronics, which allows for natural aspiration of the probe. The recording range selected for the temperature measurements was -30°C to $+50^{\circ}\text{C}$.

2.2 Calibration Equipment

A Meloy Laboratories Model CNS 1 calibrator was used for daily zero/spans on the NO_x analyzer at each station. Each ozone analyzer was equipped with an internal span source. For the Bendix hydrocarbon chromatograph at Trailer 019, span gas for total hydrocarbons and methane was provided by a gas cylinder referenced to NBS.

Multi-point calibrations of the NO_x and ozone analyzers at each site were performed using a Bendix Model 8851 Dynamic Calibration System. For audit purposes, two separate units were used - a Bendix Model 8861D Transportable Field Calibration System and a Monitor Labs Model 8500R Calibrator. Calibration and audit procedures are described in Section 3.

2.3 Data Acquisition System

The station was equipped with its own data acquisition system consisting of five major components:

- 1) An L.C. Analog-to-Digital (A/D) System,
- 2) An L.C. Data General NOVA 1200 Based Computer Unit and Memory.
- 3) A Texas Instruments KSR-733 Keyboard/Printer
- 4) Three Magnetic Tape Cassette Units, and
- 5) A System Status Panel.

The basis of the data acquisition system was a Data General NOVA 1200 minicomputer. The NOVA, with a basic cycle time of 1.2 μ sec, was equipped with automatic program load and power fail/automatic restart features. The computer utilized 8K 16-bit words of core memory. Analog-to-digital conversion was accomplished via an ADC built by Radian Corporation. The input/output unit for the system was via a teletype keyboard/printer. This teletype provided keyboard entry and hardcopy printed output. The data were also recorded on a cassette magnetic tape unit with three drives. The cassette unit was utilized for program storage and loading as well as recording. The power to the teletype and cassette units was turned on only when the unit(s) was to be used to reduce wear on mechanical parts.

Each data channel is accessed once each second. These one second updates are used to generate a five-minute average for each channel. The five-minute averages are stored until

the end of the hour and then printed on hard copy and recorded on cassettes for further processing. The five-minute readings are later edited and used to generate the hourly averages.

3.0

QUALITY ASSURANCE PROCEDURES

Many factors are important in the collection of acceptable air quality data. These include stable, well-maintained instruments, a suitable environment for those instruments, a well-designed sampling system that provides unaltered samples of the ambient air, reliable reference gases, detailed records of all activities, and proper operating procedures for the monitors. In addition, it is desirable to perform periodic calibrations and control-sample audits to assess the uncertainty in the ambient data.

The monitoring stations at Victoria and Bloomington were subjected to a thorough quality assurance program in order to substantiate the validity of the data and to detect any possible errors. Emphasis was placed on multi-point calibrations, audits, and zero/span checks. The publication, Guidelines for Development of a Quality Assurance Program; Reference Method for Measurement of Photochemical Oxidants, EPA-73-028c, was used as a guideline.

Calibration, audit, and span values for ozone were based upon the neutral buffered potassium iodide (NBKI) method as written in the Federal Register, Volume 36, No. 84, Part II, April 30, 1971. This technique is the reference method for calibrating ozone analyzers. However, the ozone sample values were also checked using both direct and reverse gas phase titrations to provide secondary documentation. Values presented in this report are based on NBKI results.

The NO_x analyzers were calibrated and audited by dilution of Standard Reference Material (SRM) cylinders of NO in nitrogen obtained from the National Bureau of Standards. A

- 14) Data were recorded on two independent cassette tapes and hardcopy.

The purpose of these quality assurance features was to produce and substantiate valid data. The primary means for validating data were the calibration and audit results. For ozone data to be considered acceptable, it had to be bracketed with a multi-point calibration and subsequent quality assurance audits with the audit results being within ± 15 percent of the control-sample value. For oxides of nitrogen data and hydrocarbon data to be considered acceptable, audit results had to be within ± 20 percent of the control-sample value. These specific percentage values for valid data were established by EPA.

In addition to the audit results, decisions were also based upon the results contained in the station logs, and additional monitored parameters such as inside temperature and line voltage. EPA-approved instruments are to be operated in a 20°C - 30°C (68°F - 86°F) temperature range to meet certification standards. In this study data would have been deleted if the inside station temperature varied outside these limits, although there may have been no apparent inaccuracies in the data. However, the station temperature at these stations remained within these limits at all times.

4.0 SITE DESCRIPTIONS

4.1 Victoria, Texas

The Victoria site was located in west central Victoria as shown in Figure 4-1. The site was in Victoria Memorial Park, adjacent to several Little League baseball fields. The only nearby obstruction was a 20-foot tall building approximately 30 yards north of the trailer. The closest trees were approximately 300 yards north and south of the site. McCright Drive was the only traffic artery in the area adjacent to the station. Other than the traffic on McCright Drive, there were no sources in the immediate vicinity of the station.

The location of this monitoring station gave good exposure in all directions. There were no obstructions to air flow that might affect monitoring results. Automotive traffic on McCright Drive was relatively light. Although located on the western edge of an urban area, the site was mostly rural in nature. The area northwest, west, and southwest of the site is rural and undeveloped.

4.2 Bloomington, Texas

The Bloomington site was located in southern Bloomington approximately two-tenths of a mile southwest of Highway 185, as shown in Figure 4-2. The location relative to the Victoria station can also be seen.

The site location was an open field behind a church parking lot. The immediate area surrounding the station was a grassy field to the south and west. The church building was about 100 yards northeast.

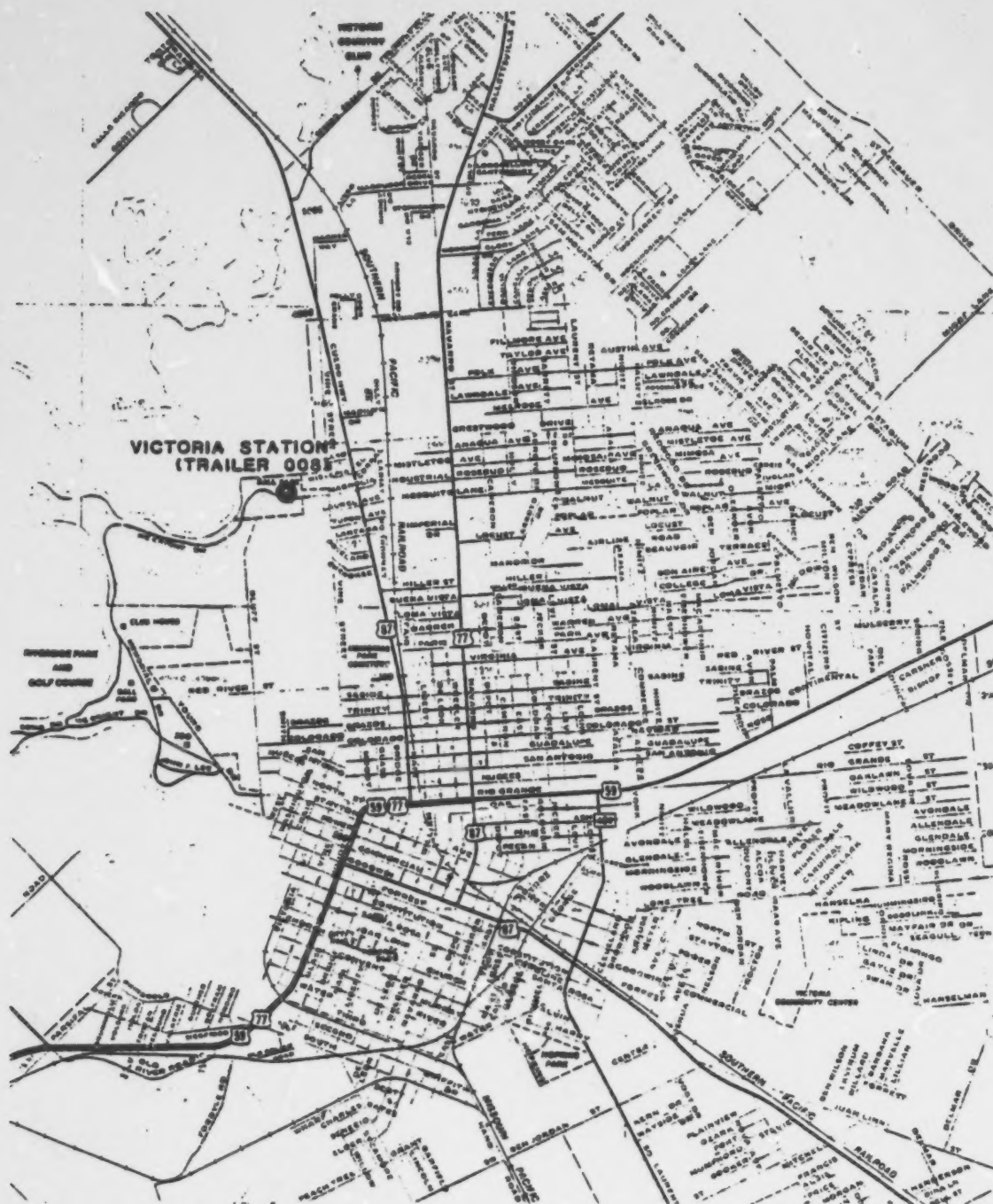


FIGURE 4-1. SITE MAP OF VICTORIA, TEXAS

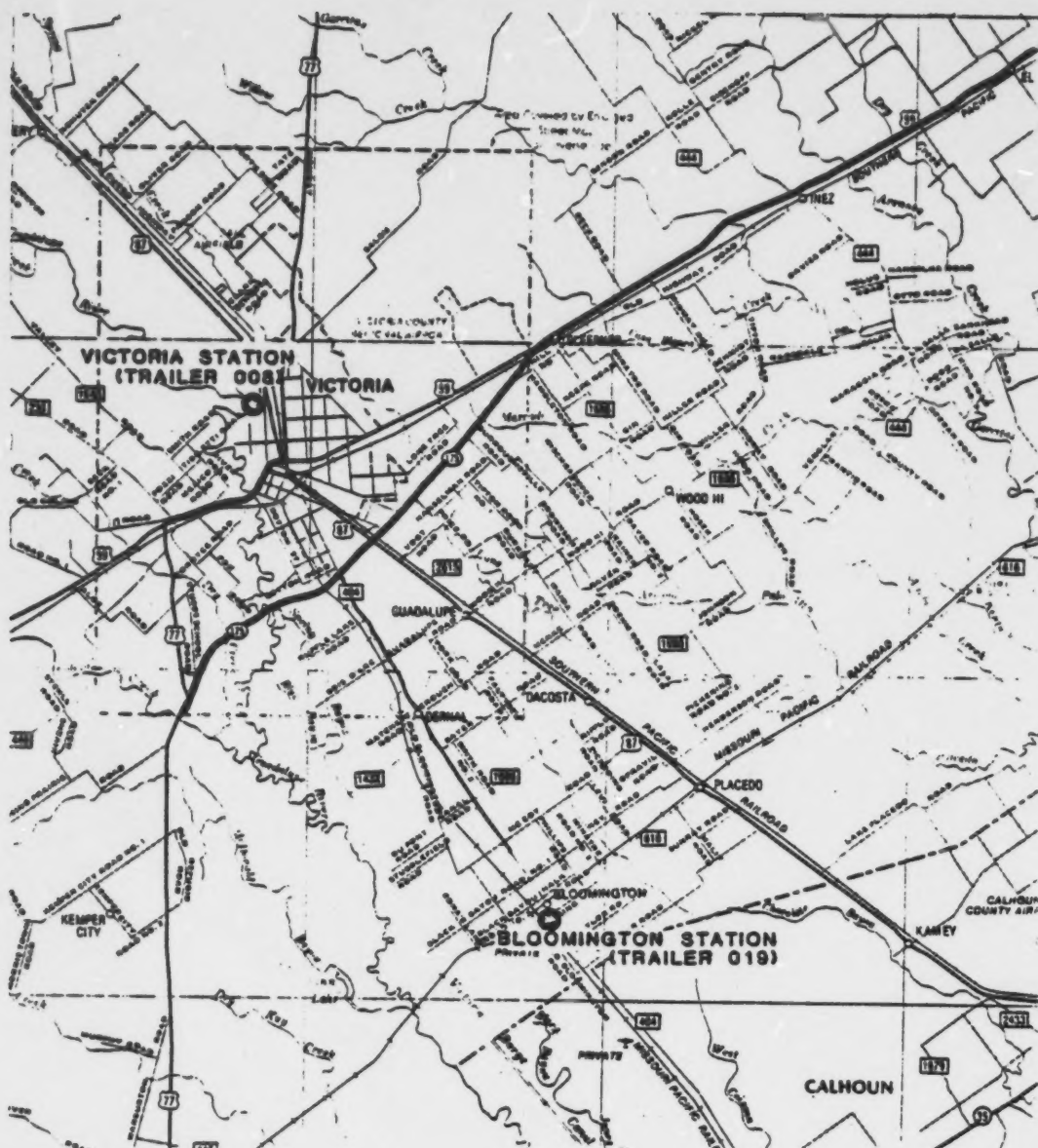


FIGURE 4-2. SITE MAP OF BLOOMINGTON, TEXAS

The location provided good exposure in all directions. There were no obstructions to the air flow that might affect monitoring results. There were few sources of pollution in the immediate vicinity of the station. Automotive traffic on nearby Highway 185 was generally light. The general area was rural in nature.

5.0

DATA PRESENTATION AND SUMMARY

Data summaries are presented in this section for Victoria and Bloomington. These include:

- Quality assurance audit results,
- Instrument span response plots,
- Down-time tables,
- Pollutant average concentrations,
- Diurnal tables for the measured parameters
- Diurnal plots,
- Wind rose tables, and
- Pollution rose tables

All data channels were sampled once each second, and values recorded as five-minute arithmetic averages of the one-second samples. This averaging technique tends to smooth instantaneous maximum values. Inherent to any data acquisition system is random noise, both from the recording instruments and quantization in the analog-to-digital conversion. The lower threshold for all analytical instruments is twice the maximum noise level generated by the instruments. This lower threshold is 5 ppb for the NO_x analyzers, 50 ppb for the gas chromatograph, and 2 ppb for the ozone analyzers. Therefore, any values appearing in the data presentations that are less than the threshold value indicate only a trace of the pollutant in question or random noise and should not be construed to be absolute levels. When the concentration levels drop below the lower threshold, the recorded quantity may be random noise and averages tend toward zero. If a zero concentration appears in the data presentation, this does not indicate absolute zero concentration.

All pollutant data were taken at the monitoring site in integer parts per billion (ppb). Except for ozone, they are presented here in micrograms/cubic meter ($\mu\text{g}/\text{m}^3$) assuming reference temperature and pressure of 25°C and 760 mmHg (1013.2 millebars), respectively. Ozone data are presented in ppb.

5.1 Victoria Data Presentation

Tables 5.1-1 and 5.1-2 give results of the EPA audits at the Victoria station. Acceptable error limits established by EPA were ± 20 percent for NO_x and NO and ± 15 percent for ozone. The instrument responses were within these limits during all EPA audits. Radian audit results for NO_x/NO and O_3 are shown in Tables 5.1-3 and 5.1-4, respectively.

During the EPA audit of 27 October, problems were encountered in obtaining a stable ozone analyzer response in trailer 008. The EPA auditor had connected his ozone generator to the analyzer and left it on overnight to equilibrate. The analyzer response equilibrated to the ozone generator output within a brief time. However, over a period of several hours the analyzer response drifted downward, stabilizing approximately 20% below the (alleged) generator output. A second ozone generator was connected to the analyzer, again the same results were obtained. A gas phase titration of the generator output was performed, and the results indicated that the generator output was less than alleged. The problem was corrected by installing a heatless air dryer on the generator zero air line. A stable analyzer response was obtained over a twelve hour checkout period following the installation of the dryer on the calibration source.

The instrument span responses are shown in Figures 5.1-1 through 5.1-3 for NO_x , NO, and O_3 . The acceptable span drift limits are shown on each graph. As seen, the instrument span responses at Victoria were within the limits at all times. No data was lost because of excessive span drift.

An analysis of instrument downtime at Victoria is given in Table 5.1-5. Ozone data was rejected for 9/25 because of excessive zero drift. The NO_x , NO data loss on 9/27 and 9/28 resulted from a malfunctioning ON/OFF switch. NO data was rejected on 10/16 and 10/17 because of excessive zero drift. The data loss on 10/22 and 10/30 resulted from power failures at the station. The NO_x /NO data from 10/23 - 10/25 was rejected because of a NO_x instrument malfunction requiring a change of instruments.

The total downtime for Victoria was 195 parameter hours. The percent valid data recovery was 97 percent.

The five highest one-hour averages for each pollutant are presented in Table 5.1-6. Tables 5.1-7 through 5.1-13 present the diurnal variations of the measured and calculated parameters for the duration of the program. Diurnal plots for October are shown in Figures 5.1-4 through 5.1-8 for NO_x , NO, NO_2 , O_3 , and wind speed, respectively.

Wind rose tables for the total sampling period and October are given in Tables 5.1-14 and 5.1-15, respectively. Pollution rose tables for NO_x , NO, NO_2 , and O_3 are presented in Tables 5.1-16 through 5.1-19.

TABLE 5.1-1
EPA AUDIT RESULTS FOR NO AND NO_x
VICTORIA, TEXAS

<u>Date</u>	<u>Standard ppm</u> <u>NO</u>	<u>Indicated ppm</u>		<u>Percent</u> <u>Difference</u>	
		<u>NO_x</u>	<u>NO</u>	<u>NO_x</u>	<u>NO</u>
9/27	0	0.003	0.003	-	-
	0.120	0.118	0.126	-1.7	+5.0
	0.181	0.186	0.192	+2.8	+6.1
	0.241	0.253	0.261	+5.0	+8.3
	0.302	0.314	0.326	+4.0	+7.9
	0.362	0.382	0.396	+5.5	+9.4
10/25	0	0.010	0.006	-	-
	0.120	0.113	0.106	-5.8	-11.7
	0.241	0.223	0.210	-7.5	-12.9
	0.362	0.330	0.317	-8.8	-12.4

TABLE 5.1-2
EPA AUDIT RESULTS FOR O₃,
VICTORIA, TEXAS

<u>Date</u>	<u>Standard ppm</u>	<u>Indicated ppm</u>	<u>Percent Difference</u>
9/27	0	0.002	0
	0.120	0.132	+10.0
	0.187	0.215	+15.0
	0.321	0.362	+12.8
	0.455	0.500	+9.9
10/27	0	0	-
	0.120	0.114	-5.0
	0.187	0.184	-1.6
	0.321	0.301	-6.2
	0.455	0.461	+1.3

TABLE 5.1-3
RADIAN AUDIT RESULTS ON NO_x AND NO
VICTORIA, TEXAS

<u>Date</u>	<u>Standard ppm</u> <u>NO</u>	<u>Indicated ppm</u>		<u>Percent</u> <u>Difference</u>	
		<u>NO_x</u>	<u>NO</u>	<u>NO_x</u>	<u>NO</u>
9/26	0.443	0.457	0.457	+3.16	+3.16
	0.284	0.289	0.285	+1.76	+0.35
	0.193	0.194	0.191	+0.52	-1.04
	0.145	0.145	0.145	0	0
10/05/77	0.371	0.352	0.351	-5.1	-5.4
	0.289	0.266	0.266	-8.0	-8.0
	0.104	0.083	0.082	-20.2	-21.2
10/10/77	0.422	0.430	0.430	+1.90	+1.90
	0.271	0.273	0.272	+0.74	+0.37
	0.183	0.180	0.183	-1.64	0
	0.139	0.140	0.139	+0.72	0
10/13/77	0.420	0.449	0.413	+6.9	-1.7
	0.216	0.246	0.212	+13.8	-1.8
	0.172	0.190	0.165	+10.5	-4.1
10/20/77	0.516	0.448	0.448	-13.2	-13.2
	0.188	0.150	0.150	-20.0	-20.2
	0.146	0.110	0.112	-25.0	-23.3
10/26/77	0.488	0.429	0.453	-12.1	-7.1
	0.372	0.308	0.316	-17.2	-15.0
	0.242	0.209	0.220	-13.6	-9.1
	0.185	0.155	0.164	-16.2	-11.3

TABLE 5.1-3. RADIANT AUDIT RESULTS ON NO_x AND NO, VICTORIA,
TEXAS (CONTINUED)

<u>Date</u>	<u>Standard ppm</u>	<u>Indicated ppm</u>		<u>Percent Difference</u>	
		<u>NO_x</u>	<u>NO</u>	<u>NO_x</u>	<u>NO</u>
11/07/77	0.461	0.416	0.440	-9.8	-4.6
	0.293	0.253	0.270	-13.6	-7.8
	0.169	0.144	0.152	-14.8	-10.0

TABLE 5.1-4
RADIAN AUDIT RESULTS ON O₃
VICTORIA, TEXAS

<u>Date</u>	<u>Standard ppm O₃</u>	<u>Indicated ppm</u>	<u>Percent Difference</u>
9/26/77	0.440	0.401	-8.86
	0.295	0.277	-6.10
	0.170	0.160	-5.88
10/05/77	0.375	0.419	+10.5
	0.240	0.292	+17.8
	0.102	0.115	+11.3
10/10/77	0.440	0.441	+0.23
	0.295	0.294	-0.34
	0.170	0.170	0
10/13/77	0.342	0.355	+3.8
	0.221	0.235	+6.3
	0.109	0.117	+7.3
10/20/77	0.342	0.405	+18.4
	0.221	0.257	+16.3
	0.109	0.124	+13.8
10/26/77	0.342	0.324	-5.3
	0.221	0.211	-4.5
	0.109	0.105	-3.7
11/07/77	0.342	0.321	-6.1
	0.221	0.218	-1.4
	0.109	0.101	-7.3

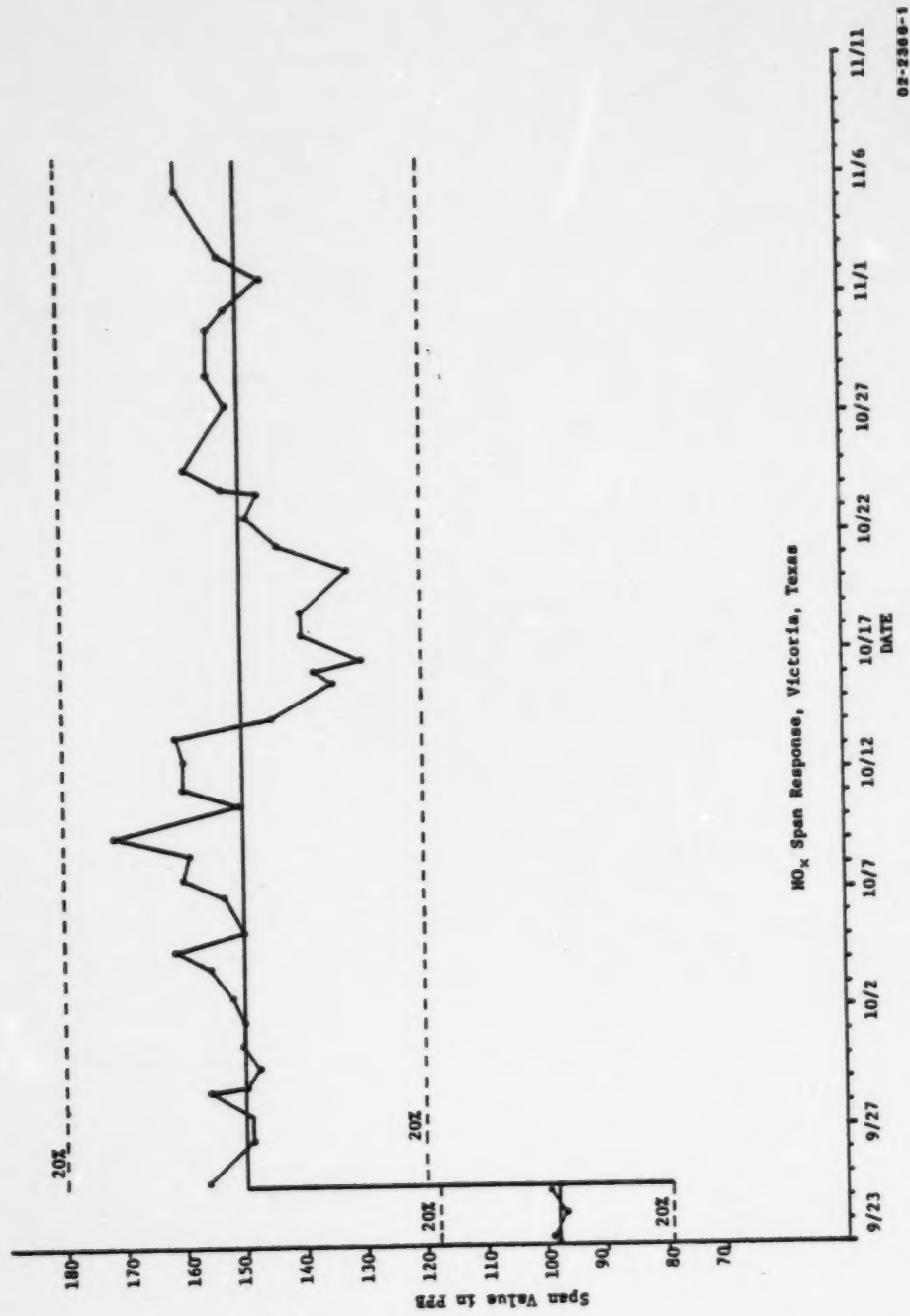


Figure 5.1-1

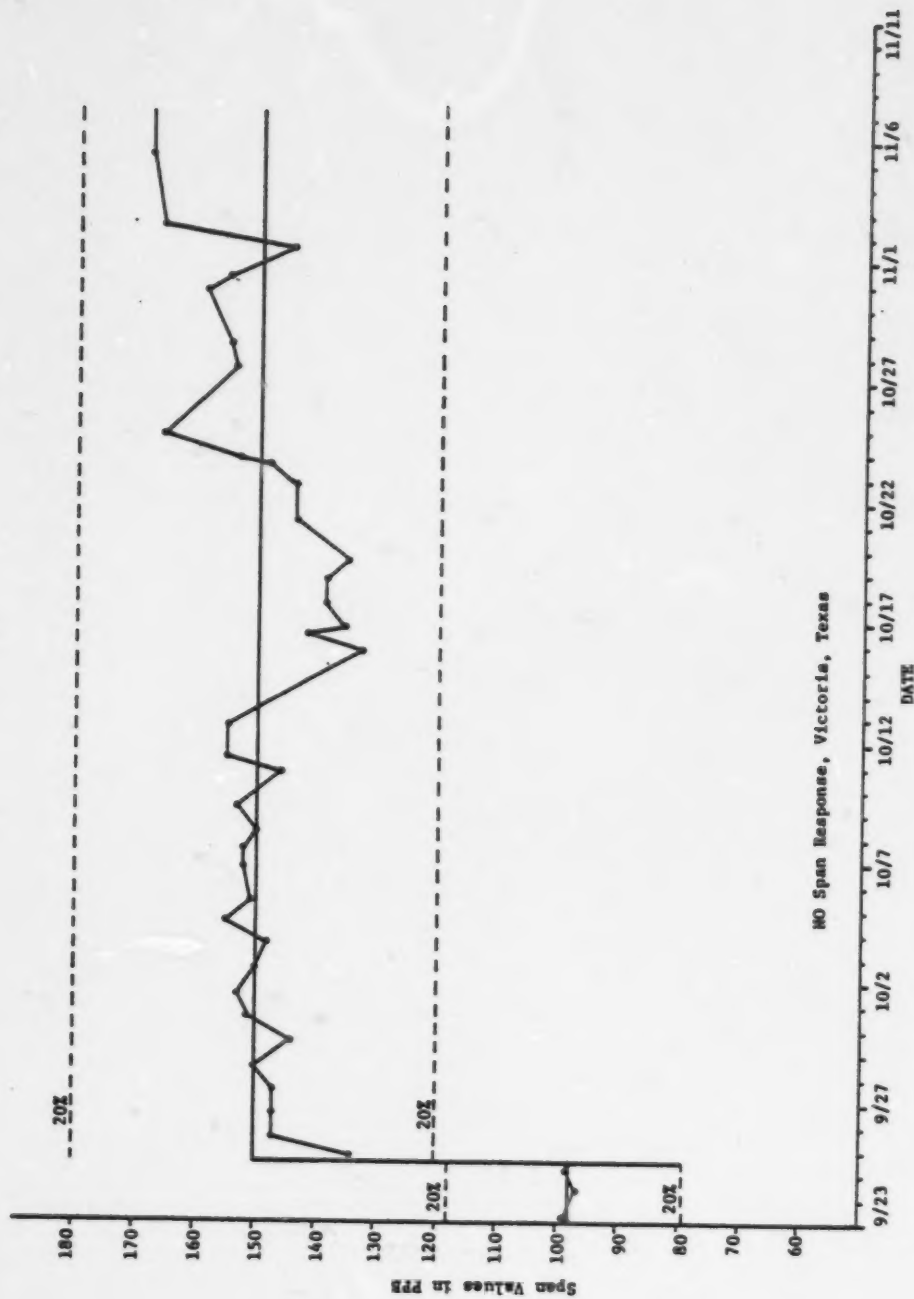
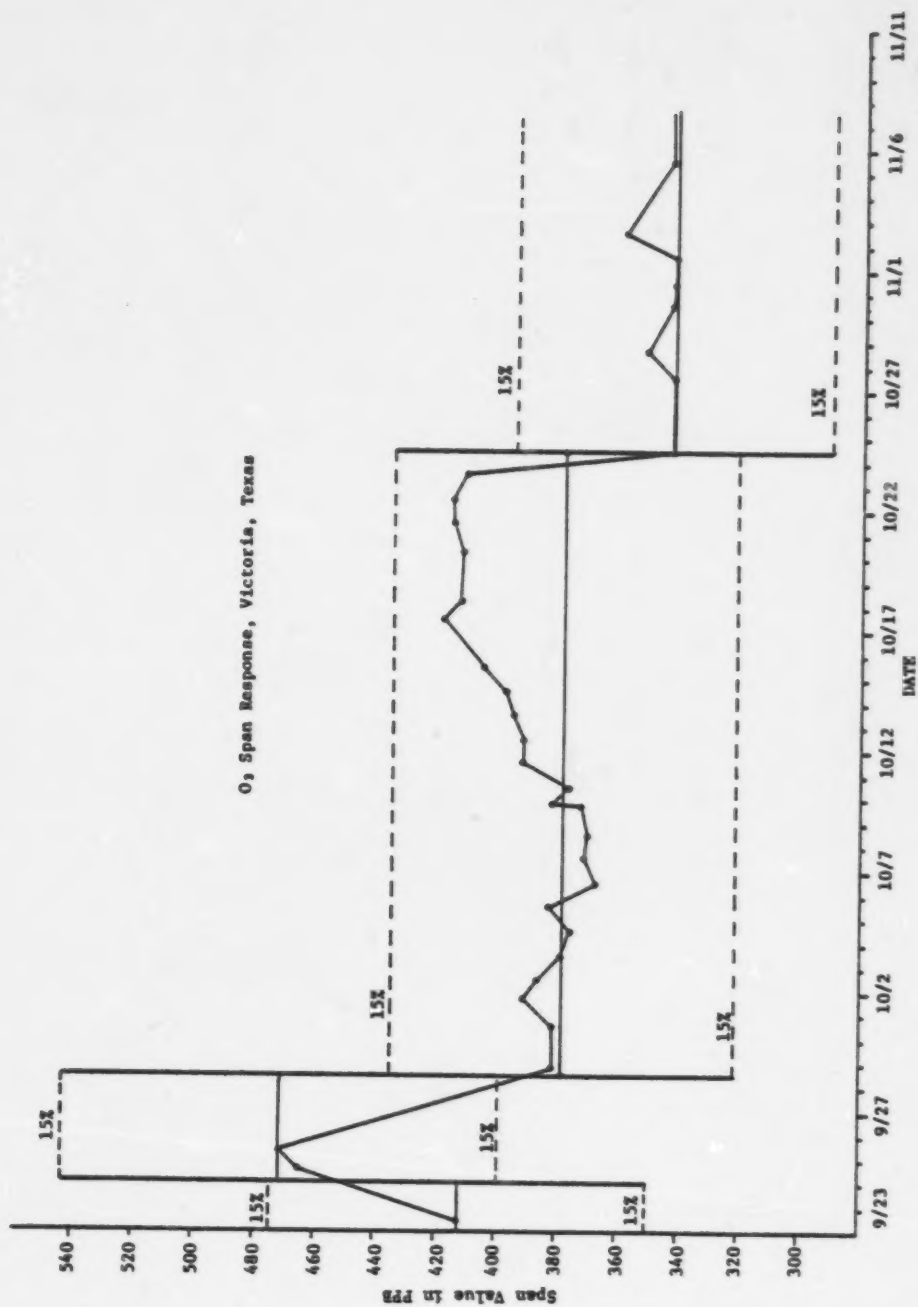


Figure 5.1-2

02-2300-1



02-2304-1

Figure 5.1-3

TABLE 5.1-5
DOWNTIME ANALYSIS
VICTORIA TRAILER 008

Instrument Downtime (Hours)						
<u>Date</u>	<u>NO_y</u>	<u>NO</u>	<u>O₁</u>	<u>T</u>	<u>WS</u>	<u>WD</u>
9/25			23			
9/27	2	2				
9/28	7	7				
10/16	6					
10/17	20			2	2	2
10/22	2	2	2	4	4	4
10/23	7	7				
10/24	15	15				
10/25	24	24				
10/30	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>
	85	59	27	8	8	8

TABLE 5.1-6

THE FIVE HIGHEST ONE-HOUR AVERAGES FOR THE PERIOD 24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

<u>Nitrogen Oxides*</u> $\mu\text{g}/\text{m}^3$ <u>ppm</u>			<u>Nitric Oxide*</u> $\mu\text{g}/\text{m}^3$ <u>ppm</u>		
1.	10/27 (0800-0900) - 194	0.103	1.	10/14 (0700-0800) - 153	0.089
2.	10/14 (0700-0800) - 177	0.094	2.	10/27 (0800-0900) - 149	0.079
3.	10/19 (0800-0900) - 164	0.087	3.	10/19 (0800-0900) - 135	0.072
4.	9/28 (0700-0800) - 128	0.068	4.	10/17 (0800-0900) - 107	0.057
5.	11/3 (1800-1900) - 115	0.061	5.	10/21 (0800-0900) - 76	0.040

<u>Nitrogen Dioxide</u> $\mu\text{g}/\text{m}^3$ <u>ppm</u>			<u>Ozone</u> $\mu\text{g}/\text{m}^3$ <u>ppm</u>		
1.	9/27 (2100-2200) - 90	0.048	1.	10/6 (1800-1900) - 341	0.174
2.	9/28 (0700-0800) - 77	0.041	2.	10/6 (1400-1500) - 272	0.139
3.	10/19 (2200-2300) - 75	0.040	3.	10/3 (1400-1500) - 263	0.134
4.	10/27 (0900-1000) - 69	0.037	4.	10/3 (1600-1700) - 237	0.121
5.	10/18 (1000-1100) - 64	0-033	5.	10/4 (1600-1700) - 225	0.115

*NO_x and NO concentrations ($\mu\text{g}/\text{m}^3$) are reported as NO₂ equivalents.

TABLE 5.1-7
DIURNAL VARIATION OF NITROGEN OXIDES
24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

DIURNAL VARIATION OF NITROGEN OXIDES (UG/M³)
TRAILER NO. - 8 PERIOD(9/24/77 TO 9/30/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	2	22	68	31	0	0	13	0	16	1	6	4	5	8	5	16	4	5	0	4	6	3	0	0	5
25	0	41	1	0	11	1	1	1	21	5	3	0	1	4	7	4	5	1	0	0	0	0	71	01	10
26	2	5	37	0	0	0	0	0	4	1	1	0	1	11	3	5	7	0	0	4	11	11	30	23	9
27	2	5	37	0	0	0	0	0	4	1	1	0	1	11	3	5	7	0	0	4	11	11	30	23	14
28	37	11	46	32	25	25	28	33	58	42	241	01	0	91	9	16	10	11	0	11	11	15	30	37	33
29	17	44	75	61	47	33	41	57	45	33	32	1	0	0	0	0	0	15	14	14	13	20	17	16	23
30	11	20	46	25	15	15	21	45	46	29	19	10	6	0	7	9	01	0	0	0	0	0	0	0	22
MEAN																									

TOTAL NUMBER OF OBSERVATIONS = 1581. MEAN = 17.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN OXIDES(UG/M³)
TRAILER NO. - 8 PERIOD(10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	14	5	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1
2	0	0	3	9	0	3	4	10	23	22	5	5	0	0	0	0	0	0	0	0	0	0	0	0	4
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	36	47	15	7	9	34	46	57	138	52	77	0	0	0	0	0	0	21	2	0	4	3	0	3	3
18	45	44	16	1	0	1	1	20	163	104	0	0	0	0	0	0	0	0	1	5	57	23	1	24	26
19	38	24	39	37	40	4	5	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
22	15	13	0	2	0	0	5	1	7	3	0	2	0	0	0	0	0	0	0	2	0	11	42	21	3
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	43	33	22	17	15	18	11	17	13	20	2	0	4	10	1	1	7	12	34	38	23	7	14	12	18
27	11	9	6	15	14	9	13	106	193	106	77	50	17	26	1	1	0	63	66	65	39	29	25	48	48
28	15	58	33	19	18	13	12	32	48	24	17	16	21	19	18	14	13	17	16	17	21	18	53	8	23
29	12	11	13	19	16	13	12	15	31	14	17	17	33	15	71	9	10	15	15	16	14	14	22	17	16
30	35	16	15	16	16	16	16	36	39	49	22	12	3	9	4	7	9	8	9	13	22	34	38	52	24
31	42	7	7	16	14	13	11	47	91	69	36	20	71	13	10	12	12	13	17	18	12	23	37	33	25
MEAN	11	14	7	6	5	5	7	22	38	25	11	5	3	4	2	2	4	4	6	7	9	7	13	10	10

TOTAL NUMBER OF OBSERVATIONS = 7533. MEAN = 10.

0 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN OXIDES(UG/M*3)
TRAILER NO. - 8 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	13	22	12	21	18	11	23	52	53	01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	2	3	2	3	3	2	3	1	0	7	0	0	0	0	0	0	0	0	20	1	3	2	0	0	0

TOTAL NUMBER OF OBSERVATIONS = 1983. MEAN = 3.

1 INDICATES CALIBRATION DURING THE HOUR

TABLE 5.1-8
DIURNAL VARIATION OF NITRIC OXIDE
24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

DIURNAL VARIATION OF NITRIC OXIDE (UG/M³)
TRAILER NO. - 8 PERIOD(9/24/77 TO 9/30/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	2	12	41	12	0	0	2	2	6	0	3	1	2	4	1	7	1	2	0	0	0	1	0	0	2
25	0	24	0	0	0	1	1	1	11	1	2	3	0	1	3	1	3	0	0	0	3	2	0	0	4
26	2	2	25	0	0	0	0	1	1	1	1	3	0	7	1	2	3	0	0	0	3	1	12	10	4
27	2	2	25	0	0	0	0	1	1	1	1	3	0	7	1	2	3	0	0	0	3	1	12	10	4
28	16	10	22	14	5	5	6	11	29	22	8	9	8	8	9	4	6	0	5	3	2	4	14	18	12
29	2	20	40	22	6	0	3	15	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	6
30	3	14	26	9	2	2	3	16	16	8	4	4	2	4	3	3	3	2	1	1	3	2	5	5	5
MEAN																									

TOTAL NUMBER OF OBSERVATIONS = 1578, MEAN = 6.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITRIC OXIDE (JG/M=3)
 TRAILER NO. - 8 PERIOD (10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	1
2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
7	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
10	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
11	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
13	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
14	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
15	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
16	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
17	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
19	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
20	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
21	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
22	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
24	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
25	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
26	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
27	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
30	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
31	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
MEAN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

TOTAL NUMBER OF OBSERVATIONS = 7816. MEAN = 4.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITRIC OXIDE(JG/M+3)
TRAILER NO. - 8 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	11	12	11	11	14	14	11	22	22	01	2	4	0	0	0	0	0	0	0	0	0	0	0	0	5
2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	65	0	0	0	0	0	3
4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	1
6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	2	2	2	2	2	2	1	2	3	3	4	4	0	0	0	0	0	0	11	0	2	0	0	0	0

TOTAL NUMBER OF OBSERVATIONS = 1983. MEAN = 2.

1 INDICATES CALIBRATION DURING THE HOUR

TABLE 5.1-9
DIURNAL VARIATION OF NITROGEN DIOXIDE
24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M³)
TRAILER NO. - 8 PERIOD(9/24/77 TO 9/30/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24	2	9	26	19	0	0	10	0	0	0	3	2	3	4	3	8	2	3	0	4	6	2	0	0
25	0	16	1	0	11	1	1	10	3	0	0	5	0	3	3	2	1	1	0	0	0	6	0	0
26	0	3	12	0	0	0	0	3	0	1	0	0	4	4	2	3	3	0	0	4	8	10	10	13
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	22	21	23	20	20	20	21	21	21	22	16	0	15	9	6	5	4	5	4	7	0	10	16	20
30	17	24	35	30	40	33	38	41	42	33	27	1	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	8	15	22	16	13	14	17	20	30	21	15	7	4	5	4	6	4	4	3	5	13	20	9	9

TOTAL NUMBER OF OBSERVATIONS = 1579, MEAN = 12.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M*3)
TRAYLER NO. 8 PERIOD(10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL NUMBER OF OBSERVATIONS = 7533. MEAN = 6.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M³)
TRAILER NO. - 8 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	HOUR																								MEAN
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	2	10	0	0	0	1	12	28	301	01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
7	0	0	0	0	0	0	0	12	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	0	0	0	0	1	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

TOTAL NUMBER OF OBSERVATIONS = 1923. MEAN = 2.

TOTAL NUMBER OF OBSERVATIONS = 1983.

MEAN = 2.

1 INDICATES CALIBRATION DURING THE HOUR

TABLE 5.1-10
DIURNAL VARIATION OF OZONE
24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

DIURNAL VARIATION OF OZONE (PPH)
TRAILER NO. - 8 PERIOD 9/24/77 TO 9/30/77

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	2	4	0	0	1	0	2	1	0	0	3	7	1	13	15	0	7	1	0	0	0	0	0	0	3
25	2	4	0	7	5	1	1	1	0	9	16	21	29	27	30	34	48	32	18	11	6	3	1	2	10
26	11	3	9	3	3	3	0	2	0	8	16	24	29	29	30	34	30	23	17	22	3	9	10	6	15
27	4	6	3	5	3	1	0	0	0	4	15	24	29	29	29	34	25	21	17	14	11	4	0	0	11
28	5	6	4	6	4	1	0	0	0	0	26	64	42	44	41	34	35	23	16	15	15	8	15	16	12
29	2	0	1	5	3	0	0	0	0	0	1/2	24	30	29	20	26	24	24	18	11	4	9	13	8	17
30	13	5	0	0	0	3	0	2	0	0	17	20	32	29	29	27	29	21	15	13	7	6	6	6	13
MEAN	7	4	3	4	3	2	1	0	2	8	17	20	32	29	29	27	29	21	15	13	7	6	6	6	6

TOTAL NUMBER OF OBSERVATIONS = 1648. MEAN = 12.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF OZONE (PPH)
TRAILER NO. - 6 PERIOD (10/1/77 TO 10/31/77)

HOUR

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	7	10	8	7	16	14	11	6	14	10	21	1	29	28	27	24	22	21	20	14	4	8	7	15	16
2	16	16	8	1	2	3	3	4	4	10	19	24	35	39	45	43	44	42	36	31	51	55	47	47	26
3	47	45	42	39	36	32	29	28	27	31	35	47	59	101	134	133	121	102	80	59	48	10	40	42	58
4	33	30	27	21	15	12	9	4	12	35	64	82	95	97	102	110	115	108	94	84	76	68	57	51	59
5	42	43	46	39	34	40	29	22	27	50	67	1	92	100	93	92	84	81	78	75	64	61	63	55	60
6	18	37	35	28	28	27	21	15	23	57	81	114	131	138	132	128	126	152	174	147	107	95	85	66	63
7	63	57	49	42	31	20	11	3	13	42	49	52	53	54	47	46	49	49	46	47	46	42	21	15	40
8	6	30	28	23	21	13	14	12	17	37	47	61	61	62	66	64	65	54	51	38	29	24	20	24	36
9	42	54	56	49	47	46	45	42	42	44	48	53	60	70	90	110	112	111	101	83	64	81	76	67	67
10	59	44	45	47	40	31	22	10	8	15	20	21	34	52	78	72	1	39	32	23	10	13	8	14	33
11	13	13	8	5	4	3	6	26	34	17	22	43	53	64	70	73	74	68	65	62	58	56	53	53	40
12	50	48	43	41	31	29	34	30	38	1	54	59	64	70	71	70	70	70	63	44	30	26	10	7	46
13	6	11	9	7	6	9	13	14	13	1	1	1	81	87	91	92	101	96	91	96	69	77	63	53	52
14	50	40	24	27	12	6	1	1	3	35	89	93	93	91	85	82	81	70	75	58	41	30	21	22	48
15	16	23	32	32	22	9	6	2	13	30	55	72	79	91	107	110	106	96	71	62	59	61	104	100	57
16	94	76	67	59	55	51	48	44	43	48	50	61	67	69	71	73	75	73	47	14	4	5	16	14	51
17	19	8	2	2	3	16	9	2	6	37	65	100	98	98	102	89	70	67	60	62	13	32	47	19	44
18	12	8	12	6	3	2	1	6	11	12	28	60	74	73	72	72	72	72	68	62	13	32	47	19	34
19	5	2	5	6	4	1	1	0	0	10	70	63	86	83	91	92	86	76	58	44	66	44	4	18	39
20	20	22	11	6	5	7	6	1	1	1	49	70	83	90	84	84	81	75	67	50	53	33	17	20	46
21	20	16	4	5	5	4	6	3	3	25	42	47	46	47	38	26	22	1	50	43	38	34	14	23	25
22	18	14	24	22	26	30	26	34	31	43	35	27	64	73	77	73	70	68	57	54	36	32	42	37	39
23	34	30	30	24	19	18	17	11	13	17	35	27	64	73	77	82	85	84	67	47	55	48	41	29	43
24	19	26	39	46	37	37	33	28	10	18	20	22	15	25	30	41	49	51	45	10	8	0	0	0	26
25	1	5	7	13	13	12	11	13	9	25	44	57	65	70	73	1	1	1	1	1	1	1	1	1	27
26															88	96	94	94	64	59					83
27															2	0	0	41	46	42	30	25	52	42	31
28															84	83	94	100	95	57	49	50	22	42	69
29	35	30	13	14	16	16	20	13	12	20	34	47	51	64	66	76	78	78	49	44	44	43	34	30	39
30	26	30	34																						37
31	22	54	54	40	39	40	21	5	4	19	38	42	45	42	44	40	40	40	34	33	35	29	23	23	34
MEAN	29	30	20	25	22	20	17	15	17	30	47	61	67	72	78	75	74	73	64	53	44	41	37	35	

TOTAL NUMBER OF OBSERVATIONS = 7913. MEAN = 45.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF OZONE (PPH)
 TRAILER NO. - 8 PERIOD (11/ 1/77 TO 11/ 7/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	34	28	39	29	30	30	14	14	18	30	30	25	22	22	30	29	24	15	17	19	23	25	30	30
2	35	33	31	27	28	31	29	27	33	38	41	43	46	51	58	59	54	46	25	24	13	7	22	30
3	33	29	20	12	8	8	5	8	19	27	36	43	46	48	50	53	54	42	4	24	33	27	22	24
4	28	27	25	16	11	11	9	12	18	32	45	46	48	53	59	63	55	49	37	33	30	37	39	35
5	29	29	27	18	25	23	22	23	31	37	43	57	59	61	61	62	64	57	42	37	25	15	9	7
6	5	4	6	5	5	6	3	5	24	47	55	67	73	71	69	71	76	53	35	15	27	23	16	34
7	42	38	41	36	30	23	17	4	17	33	43	46	45	43	42	39		1	1	15	27	23	16	34
MEAN	30	27	28	21	20	19	15	13	23	36	43	47	49	50	53	54	55	44	27	26	26	23	23	26

TOTAL NUMBER OF OBSERVATIONS = 1984, MEAN = 33.

! INDICATES CALIBRATION DURING THE HOUR

TABLE 5.1-11
DIURNAL VARIATION OF WIND SPEED
24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

DIURNAL VARIATION OF WIND SPEED (MPH)
TRAILER NO. - 8 PERIOD(9/24/77 TO 9/30/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	3	3	4	4	6	7	5	1	6	9	11	12	11	11	11	10	10	10	11	9	8	7	7	7	8
25	5	5	6	5	6	6	4	3	4	7	11	11	11	11	12	11	10	10	10	9	7	8	7	7	8
26	8	7	7	6	5	5	4	2	2	5	8	9	8	12	11	9	11	10	9	8	6	5	5	5	7
27	6	7	8	5	4	2	1	0	2	7	12	9	9	9	8	8	9	11	11	10	7	7	7	5	7
28	5	5	5	5	4	3	1	1	1	5	7	8	8	8	8	9	11	11	9	8	7	5	3	3	6
29	3	4	4	4	4	2	3	1	2	6	8	10	9	8	6	7	9	11	10	10	7	5	6	8	7
30	5	5	6	5	5	2	2	2	4	8	8	10	10	11	10	12	11	11	10	9	7	8	9	9	8
MEAN	6	6	6	5	5	4	3	2	4	7	10	10	10	10	10	10	11	11	11	9	8	7	7	7	7

TOTAL NUMBER OF OBSERVATIONS = 2915. MEAN = 8.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED(MPH)
TRAILER NO. - 8 PERIOD(10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	8	5	12	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
2	5	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
3	12	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
7	3	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
10	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
11	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
13	0	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
14	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
15	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
16	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
17	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
19	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
20	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
21	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
22	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
23	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
24	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
25	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
26	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
27	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
30	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
31	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
MEAN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

MEAN = 6.

TOTAL NUMBER OF OBSERVATIONS = 8816.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED (MPH)
TRAILER NO. - 8 PERIOD (11/ 1/77 TO 11/ 7/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	9	7	7	5	4	2	3	2	3	7	6	5	8	9	7	8	7	3	1	3	3	4	5	4	6
2	9	7	4	3	3	4	4	3	5	7	9	7	7	9	9	8	5	3	2	2	2	1	3	3	6
3	3	3	2	3	3	2	2	2	4	8	9	8	7	6	6	5	4	1	2	5	5	4	3	5	5
4	7	6	5	2	2	2	2	2	4	5	7	8	9	8	8	8	6	2	1	2	2	2	2	1	5
5	1	1	1	1	2	2	3	3	5	5	5	7	6	6	6	6	4	2	2	2	1	8	8	4	3
6	2	4	1	1	1	0	0	0	1	2	3	4	4	3	3	3	4	5	4	3	3	2	3	4	3
7	5	5	5	2	1	3	3	2	5	7	12	11	10	11	12	11	4	5	4	3	3	2	3	4	7
MEAN	5	4	4	3	3	3	3	2	4	6	7	8	8	8	8	7	6	3	2	3	3	3	3	3	3

TOTAL NUMBER OF OBSERVATIONS = 1929, MEAN = 8.

1 INDICATES CALIBRATION DURING THE HOUR

TABLE 5.1-12
DIURNAL VARIATION OF WIND DIRECTION
24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

DIURNAL VARIATION OF WIND DIRECTION(DEG)
TRAILER NO. - R PERIOD(9/24/77 TO 9/30/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24	149	150	156	157	162	176	191	202	184	187	187	181	183	182	185	169	163	155	155	153	168	166	165	166
25	164	170	173	173	182	182	181	184	187	187	181	187	179	175	181	178	161	167	166	162	162	163	165	166
26	163	173	185	187	188	187	196	208	214	194	200	185	205	175	166	171	164	165	157	153	160	161	157	161
27	160	167	181	195	186	209	243	308	225	203	198	205	206	191	184	162	154	155	152	152	159	165	168	169
28	157	160	177	194	191	148	165	163	192	209	204	176	184	183	164	152	150	155	156	156	157	155	144	147
29	164	160	171	176	190	207	186	238	204	206	199	181	182	191	176	182	159	162	156	154	159	168	167	169
30	165	175	178	178	180	173	170	175	186	190	191	184	170	168	173	164	164	166	157	156	162	164	165	167
MEAN	160	165	174	180	182	183	189	204	190	196	193	187	188	180	175	168	159	161	157	155	160	163	162	163

TOTAL NUMBER OF OBSERVATIONS = 2015. MEAN = 175.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION(DEG)
TRAILER NO. - 8 PERIOD(10/1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	166	166	171	183	186	188	185	188	186	187	193	187	183	183	182	178	167	154	168	168	154	151	165	162	173
2	162	166	179	177	169	154	287	98	193	169	176	201	233	209	318	21	34	84	49	63	41	36	35	37	123
3	39	39	41	39	37	32	40	45	42	43	46	49	56	49	55	55	51	53	35	42	69	58	48	46	46
4	43	40	24	36	40	35	38	33	37	54	63	64	78	61	86	98	83	185	119	128	117	99	99	97	69
5	81	79	58	33	31	45	41	52	47	57	61	76	115	117	125	189	128	135	125	125	119	114	118	92	87
6	79	74	55	41	56	41	31	35	35	41	43	51	58	48	52	59	55	59	83	121	116	116	96	89	63
7	68	42	52	42	58	88	287	77	79	112	148	163	201	169	161	169	170	162	167	166	166	166	170	173	135
8	178	186	198	194	192	198	287	204	191	202	288	287	281	288	281	187	173	168	163	161	288	192	323	318	194
9	323	8	12	13	14	19	19	21	34	37	43	46	59	59	78	188	118	119	128	138	128	188	89	64	55
10	61	61	38	55	59	64	55	27	52	63	48	118	189	196	201	282	198	164	163	164	171	178	177	176	121
11	184	196	282	192	185	119	358	2	3	358	1	3	5	6	7	18	7	11	6	5	11	8	2	3	8
12	3	4	357	358	346	368	3	3	5	28	33	22	23	25	22	19	16	13	14	16	368	6	335	289	7
13	287	346	327	311	263	331	333	337	339	329	266	273	241	289	288	257	214	239	182	163	183	196	193	284	288
14	199	181	176	274	263	357	15	28	19	77	132	158	157	178	153	168	155	152	152	152	147	132	128	125	145
15	138	138	129	123	38	32	25	16	34	92	105	218	222	247	315	318	295	262	256	195	284	261	9	6	328
16	7	8	18	8	7	5	16	7	9	36	48	55	37	43	32	15	24	59	92	127	126	182	168	141	41
17	22	16	353	6	21	35	28	20	61	112	138	153	185	188	191	171	167	159			142	138	146	152	112
18	158	155	173	186	7	72	39	39	28	89	173	181	176	174	185	187	171	162	159	159	166	158	162	157	147
19	157	144	345	236	351	15	18	11	11	353	232	217	229	248	114	112	121	164	162	159	157	158	149	158	154
20	142	145	158	158	118	31	26	24	36	64	125	189	204	143	84	113	137	132	123	123	126	187	88	97	110
21	88	82	49	34	45	44	183	89	62	128	134	155	132	181	172	187	114	182	122	123	118	89	89	78	188
22	68	43	57	78	61	58	72	75	65	111					62	81	98	116	116	98	39	14	25	31	68
23	57	53	37	25	5	341	8	69	26	15	18	22	33	44	28	30	43	33	32	32	53	188	141	99	39
24	359	317	382	388	36	368	325	281	125	64	388	189	185	215	242	221	246	258	269	223	34	346	38	256	288
25	225	333	341	332	324	386	323	325	226	351	346	337	338	332	329	323	337	358	4	83	122	137	182	214	327
26	212	289	234	324	358	329	321	347	287	22	278	224	217	55	77	181	124	122	149	157	184	192	193	211	288
27	234	257	186	235	246	324	88	42	65	78	344	144	136	173	159	167	159	161	148	137	168	181	184	189	183
28	193	144	157	171	152	344	368	41	49	39	68	218	175	4	178	92	118	146	154	159	163	172	181	187	139
29	191	283	285	223	224	242	249	212	213	243	193	218	214	282	158	146	145	149	152	154	161	157	158	159	188
30	172	169	167		289	97	81	139	179	178	184	182	175	152	144	149	153	155	158	154	147	152	154	157	157
31	159	161	185	167	133	138	181	95	159	186	179	177	186	176	157	152	152	156	161	154	156	156	168	154	168
MEAN	127	142	93	36	34	26	28	38	49	66	138	164	168	147	125	123	124	131	132	135	133	136	127	137	

TOTAL NUMBER OF OBSERVATIONS = 8798, MEAN = 187.

: INDICATES CALIBRATION DURING THE HOUR

DIRECTIONAL VARIATION OF WIND DIRECTION(DEG)
 TRAILER NO. - 8 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	156	144	151	155	134	91	85	149	189	347	24	74	128	134	293	44	182	283	264	278	312	327	353	331
2	339	336	335	294	290	305	313	292	300	295	305	301	288	273	262	266	262	225	188	201	319	173	261	315
3	281	231	300	335	338	343	324	231	304	353	353	352	344	316	328	325	317	311	32	15	8	10	6	9
4	21	10	3	344	334	330	323	249	311	301	204	312	312	325	335	342	346	340	336	327	316	333	316	289
5	304	293	304	320	327	335	332	327	320	325	333	340	323	317	309	311	304	287	262	263	264	267	253	262
6	262	262	331	230	310	224	223	245	353	200	230	223	192	179	201	196	143	148	140	148	159	154	136	120
7	122	120	112	107	89	191	189	95	120	130	135	140	152	143	151	142								
MEAN	302	272	334	305	335	342	331	291	307	317	321	331	278	262	282	338	312	279	258	270	308	300	307	314

TOTAL NUMBER OF OBSERVATIONS = 1919. MEAN = 306.

: INDICATES CALIBRATION DURING THE HOUR

TABLE 5.1-13
DIURNAL VARIATION OF TEMPERATURE
24 SEPTEMBER - 7 NOVEMBER
VICTORIA, TEXAS

DIURNAL VARIATION OF TEMPERATURE (DEG F)
TRAILER NO. - 6 PERIOD(9/24/77 TO 9/30/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24	78	78	78	77	77	78	77	77	79	82	84	88	88	90	90	91	89	86	83	81	81	80	80	83
25	79	79	79	76	77	77	77	77	79	81	84	87	89	89	90	90	88	86	83	81	81	80	80	83
26	82	79	78	77	77	77	76	76	79	82	84	87	88	90	90	89	88	86	82	81	80	79	79	83
27	76	79	78	77	76	75	75	75	78	81	83	85	88	90	91	92	91	89	86	85	84	80	79	83
28	78	78	78	77	76	75	75	75	78	81	84	85	89	90	91	91	89	87	85	82	80	79	77	82
29	77	77	77	77	76	75	74	74	76	80	83	86	88	90	91	91	88	85	82	80	79	79	79	82
30	78	77	77	77	76	75	75	74	78	81	85	87	89	90	91	91	89	86	83	81	81	81	80	83
MEAN	79	78	78	78	77	76	75	75	79	82	84	87	89	90	91	91	90	88	85	83	81	80	80	79

TOTAL NUMBER OF OBSERVATIONS = 2015, MEAN = 83.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE (DEG F)
TRAILER NO. - 8 PERIOD (11/1/77 TO 11/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	84	81	82	83	80	79	78	75	80	84	86	87	89	93	91	91	90	89	87	84	82	82	82	81	84
2	81	81	82	83	80	79	78	75	80	84	86	87	89	93	91	91	90	89	87	84	82	82	82	81	84
3	75	75	75	74	73	72	72	74	69	81	86	89	91	94	89	81	83	83	81	88	79	77	76	75	82
4	64	62	61	60	59	59	58	58	61	65	70	74	77	79	75	77	77	77	76	72	70	69	68	67	70
5	65	64	63	62	62	62	62	62	64	69	75	79	80	83	83	82	82	82	80	78	76	74	73	71	73
6	72	69	68	67	67	66	65	65	68	72	76	80	82	84	86	86	86	85	83	78	76	74	73	71	75
7	72	68	68	68	66	65	64	63	73	79	81	82	83	84	83	86	86	85	82	80	79	78	78	78	77
8	77	76	75	75	74	73	73	73	75	79	82	85	88	89	90	93	92	89	86	83	80	79	78	76	81
9	75	74	72	69	67	67	66	65	65	67	69	71	73	74	76	77	78	78	77	75	74	72	70	69	72
10	68	67	66	67	67	67	66	65	68	73	75	79	83	86	88	89	89	86	84	82	80	79	79	78	77
11	77	77	76	76	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75
12	59	57	55	53	51	50	50	49	53	56	60	63	66	68	70	72	72	71	68	67	66	64	62	61	69
13	49	48	48	46	45	45	45	45	50	56	60	63	66	68	70	72	72	71	68	67	66	64	62	61	69
14	54	53	54	52	50	50	50	50	55	60	66	72	74	76	77	77	76	74	72	70	68	66	65	64	65
15	63	63	62	61	59	57	56	56	59	70	78	80	82	81	83	84	83	83	79	74	72	71	72	70	71
16	68	65	63	61	59	56	54	53	55	59	63	66	69	71	74	75	75	76	73	67	63	59	59	56	65
17	56	55	52	51	51	51	51	51	58	67	72	75	77	79	80	80	79	77	73	67	63	59	59	56	65
18	66	65	65	63	62	62	61	62	62	70	77	80	83	85	85	85	85	81	80	75	73	72	70	69	73
19	67	66	65	64	63	63	62	61	63	71	79	81	84	86	87	85	84	82	79	76	74	73	71	70	74
20	69	68	67	66	66	64	63	62	65	73	79	81	84	86	87	84	84	83	80	76	74	73	70	69	74
21	63	62	61	60	60	60	60	60	69	74	79	81	84	86	87	84	84	83	80	76	74	73	71	70	72
22	69	68	67	67	67	67	67	67	70	74	79	81	84	86	87	84	84	83	80	76	74	73	71	70	72
23	65	64	64	64	63	63	64	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
24	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
25	63	62	61	60	60	60	60	60	69	74	79	81	84	86	87	84	84	83	80	76	74	73	71	70	72
26	67	66	65	64	64	64	64	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
27	65	64	64	64	64	64	64	64	64	65	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
28	73	71	70	69	68	68	68	68	69	72	77	79	81	83	83	83	81	81	78	75	74	73	71	71	72
29	63	62	61	60	60	60	60	60	69	74	79	81	84	86	87	84	84	83	80	76	74	73	71	70	72
30	69	68	67	67	67	67	67	67	70	74	79	81	84	86	87	84	84	83	80	76	74	73	71	70	72
31	72	73	73	72	72	71	70	69	71	77	79	81	83	84	85	83	81	80	77	76	76	76	75	75	77
MEAN	68	67	67	66	65	65	64	64	64	68	71	75	77	79	80	81	81	80	78	75	73	71	70	69	69

TOTAL NUMBER OF OBSERVATIONS = 6816, MEAN = 73.

I INDICATES CALIBRATION DURING THE HOUR

JOURNAL VARIATION OF TEMPERATURE(DEG F)
 TRAILER NO. - 8 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	75	75	75	74	73	72	71	72	75	67	68	69	66	65	65	64	64	64	64	63	63	62	61	57
2	57	55	53	51	51	51	50	51	55	58	60	63	64	65	67	67	67	68	61	59	57	56	55	54
3	57	56	52	50	50	50	49	51	56	59	62	64	66	67	68	69	68	66	64	62	60	58	56	54
4	54	54	53	51	49	49	49	51	56	62	67	69	71	73	75	76	76	73	68	65	63	62	62	62
5	60	60	59	58	57	57	57	59	64	67	72	74	76	77	78	78	77	74	70	68	65	63	62	62
6	60	60	58	56	56	56	57	59	66	71	75	77	78	80	80	80	79	75	71	67	65	63	62	62
7	65	65	60	64	64	63	66	67	71	75	77	78	78	78	78	78	79	75	71	67	66	65	66	66
MEAN	62	61	60	58	58	57	57	59	64	66	69	71	72	73	74	73	72	70	67	64	63	62	61	59

TOTAL NUMBER OF OBSERVATIONS = 1920, MEAN = 65.

: INDICATES CALIBRATION DURING THE HOUR

TABLE 5.1-14
WIND-ROSE TABLE FOR VICTORIA, TEXAS, FOR THE PERIOD 9/24/77 TO 11/7/77

GROUP MAX SPEED KNOTS	WIND DIRECTION												TOTAL %
	N 19	NNE 16	NE 15	ENE 13	E 12	ESE 13	SE 12	SSE 13	S 15	SSW 15	SW 16	WSW 16	
GT 21													
16 - 21	2												
10 - 16	95	41	46	12	7	1	13	54	62	20			
6 - 10	161	176	335	109	40	135	214	872	682	214	9		
3 - 6	252	214	235	175	184	295	213	794	532	186	41	20	24
LE 3	417	438	463	363	266	229	384	570	622	516	251	159	197
TOTAL	927	869	1079	659	497	660	824	2209	1838	936	381	190	242
PERCENT	7	7	9	5	4	5	7	18	14	7	2	2	2
TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE = 427 (3.36 %)													

TABLE 5.1-15

WIND ROSE TABLE FOR VICTORIA, TEXAS, FOR THE PERIOD 10/1/77 TO 10/31/77

GROUP MAX SPEED KNOTS	N 19	NNE 16	NE 15	ENE 13	E 12	ESE 13	SE 11	SSE 13	WIND DIRECTION			WSW 7	W 6	WNW 10	NNW 8	TOTAL %
									S 15	SSW 15	SW 9					
GT 21	1															0
16 - 21	1	2														2 0
10 - 16	1	95	41	44	12	7	1	2	23	58	11			1		287 3
6 - 10	1	133	160	327	103	38	133	135	376	261	85	2	1	2	7	1778 20
3 - 6	1	186	188	229	178	183	247	169	492	267	188	29	22	18	34	2373 27
LE 3	1	337	419	454	354	233	179	383	430	426	378	161	115	92	72	4352 49
TOTAL	1	753	889	1054	630	461	568	609	1321	1084	574	192	138	102	151	8792 100
PERCENT	1	9	9	12	7	5	6	7	15	11	7	2	2	1	2	100
.....																
TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE -												331(3.76 %)				

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN OXIDES

VICTORIA

TRAILER NO. - 8 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³	N	NNE	NE	ENE	E	ESE	SE	SSE	WIND DIRECTION				NNW	NW	NNW CALM	TOTAL
									S	SSW	SW	WSW				
90 - 100	9	30	16	10	6	3	4	11	15	1			1		4	61 132
80 - 90	2	1	0	2	1	1	1	3	15	7	1		0		1	01 35
70 - 80	2	1	1	2	3	3	3	6	20	1	3		0		1	01 55
60 - 70	2	4	3	2	1	5	11	8	22	5	0		0		0	31 66
50 - 60	1	5	2	4	3	2	10	12	24	2	3		0		0	11 77
40 - 50	1	4	9	10	4	6	10	58	45	10	7	1	1	1	0	41 100
30 - 40	1	3	5	9	11	4	10	71	44	13	6	0	1	0	0	61 192
20 - 30	1	4	5	7	10	8	27	87	92	31	7	1	4	0	1	91 294
10 - 20	10	16	12	20	10	10	36	153	137	53	20	0	2	1	5	1 451 564
LT	46	23	18	32	36	43	64	370	164	05	33	26	10	3	0	27 731 1069
TOTAL	685	620	874	489	330	477	510	1206	936	520	166	109	184	247	360	451 1861 8374
MEAN	760	727	945	595	431	570	718	1994	1514	728	246	145	203	252	374	406 342 111030

TABLE 5.1-16

POLLUTION ROSE TABLE FOR NO_x

VICTORIA, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITRIC OXIDE

VICTORIA

TRAILER NO. 0 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³ GT	WIND DIRECTION																	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
90 - 100	7	27	12	11	4	1							1		3	4	70	
80 - 90	0	8	3	1	0	0							0		0	0	12	
70 - 80	2	4	0	2	3	0		4					0		0	0	15	
60 - 70	0	5	2	3	0	3		0					0		1	2	16	
50 - 60	1	3	2	1	1	0	2	1	11				0		0	0	22	
40 - 50	1	2	1	1	3	1	0	3	16				0		0	0	20	
30 - 40	1	4	0	5	1	5	1	0	25	1	2		0		1	2	40	
20 - 30	1	2	6	1	2	0	1	5	24	0	4		0		1	1	63	
10 - 20	5	0	3	9	12	4	9	22	63	20	10		0	1	0	13	109	
LT	23	0	0	14	16	15	40	232	127	59	27	15	0	0	3	5	47	625
TOTAL	750	694	920	555	405	556	673	1790	1295	650	204	130	194	251	370	400	297	110230
MEAN	799	766	965	603	447	591	734	2027	1561	747	247	145	203	252	374	491	366	111310

TABLE 5.1-17

POLLUTION ROSE TABLE FOR NO

VICTORIA, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN DIOXIDE

VICTORIA

TRAILER NO. - 8 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION		WIND DIRECTION																	TOTAL	
UG/M ³		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	NW	CALM	TOTAL
GT	100 :								4											4
90 -	100 :							2	2											4
80 -	90 :					1		3	4	3										11
70 -	80 :				3	1	1	6	5	12	2									34
60 -	70 :	1	2	3	7	6	3	10	11	10	7	1								73
50 -	60 :	5	4	0	7	3	7	17	30	9	4	5	1	1	1	1	2	1	182	
40 -	50 :	2	7	4	9	5	2	12	65	47	3	1	0	0	0	0	5	6	168	
30 -	40 :	4	18	17	13	6	13	19	68	73	7	4	0	0	1	0	0	9	252	
20 -	30 :	10	27	20	29	28	16	35	132	155	54	18	1	7	0	2	1	31	568	
10 -	20 :	47	30	18	32	41	44	48	245	187	75	24	11	5	3	5	18	47	880	
LT	10 :	639	639	878	495	340	484	558	1425	1818	576	193	132	190	248	366	461	239	8941	
TOTAL		1768	727	945	595	431	573	718	1991	1514	720	246	145	283	252	374	486	342	111835	
MEAN		2.	4.	2.	6.	6.	4.	8.	9.	10.	6.	6.	3.	2.	0.	0.	1.	0.	6.	

TABLE 5.1-18

POLLUTION ROSE TABLE FOR NO₂

VICTORIA, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

OZONE

VICTORIA

TRAILER NO. - 0 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION PPH GT	WIND DIRECTION																	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
400 -																		1
440 -																		1
480 -																		1
360 -																		1
320 -																		1
280 -																		1
240 -																		1
200 -																		1
160 -																		1
120 -																		1
80 -																		1
40 -																		1
LT																		1
TOTAL	1	810	787	985	580	459	609	742	2006	1582	775	235	160	205	250	422	562	311
MEAN	40.	37.	45.	50.	46.	58.	46.	32.	27.	34.	36.	44.	44.	42.	38.	30.	10.	37.

TABLE 5.1- 19

POLLUTION ROSE TABLE FOR O₃

VICTORIA, TEXAS

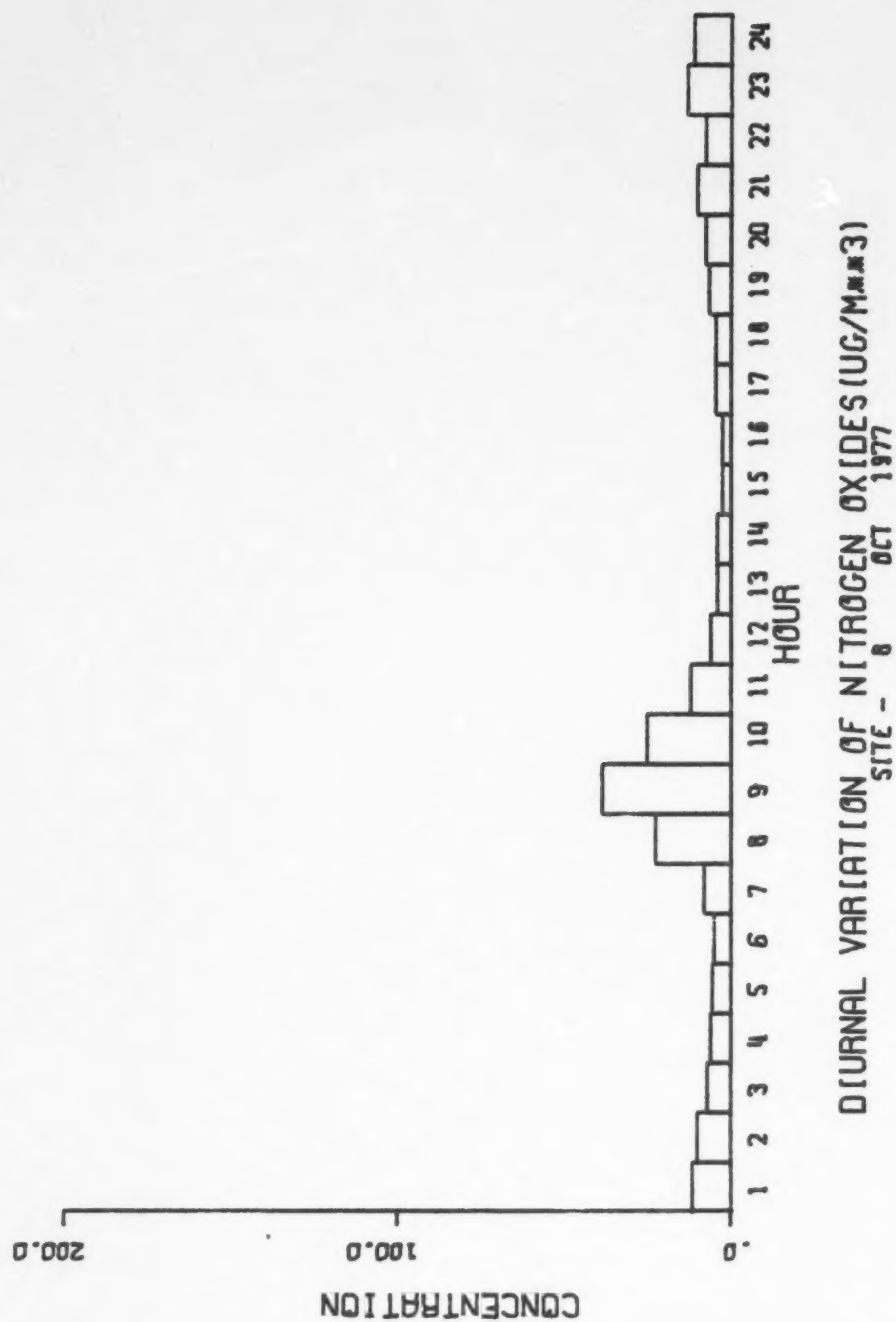


FIGURE 5.1-4

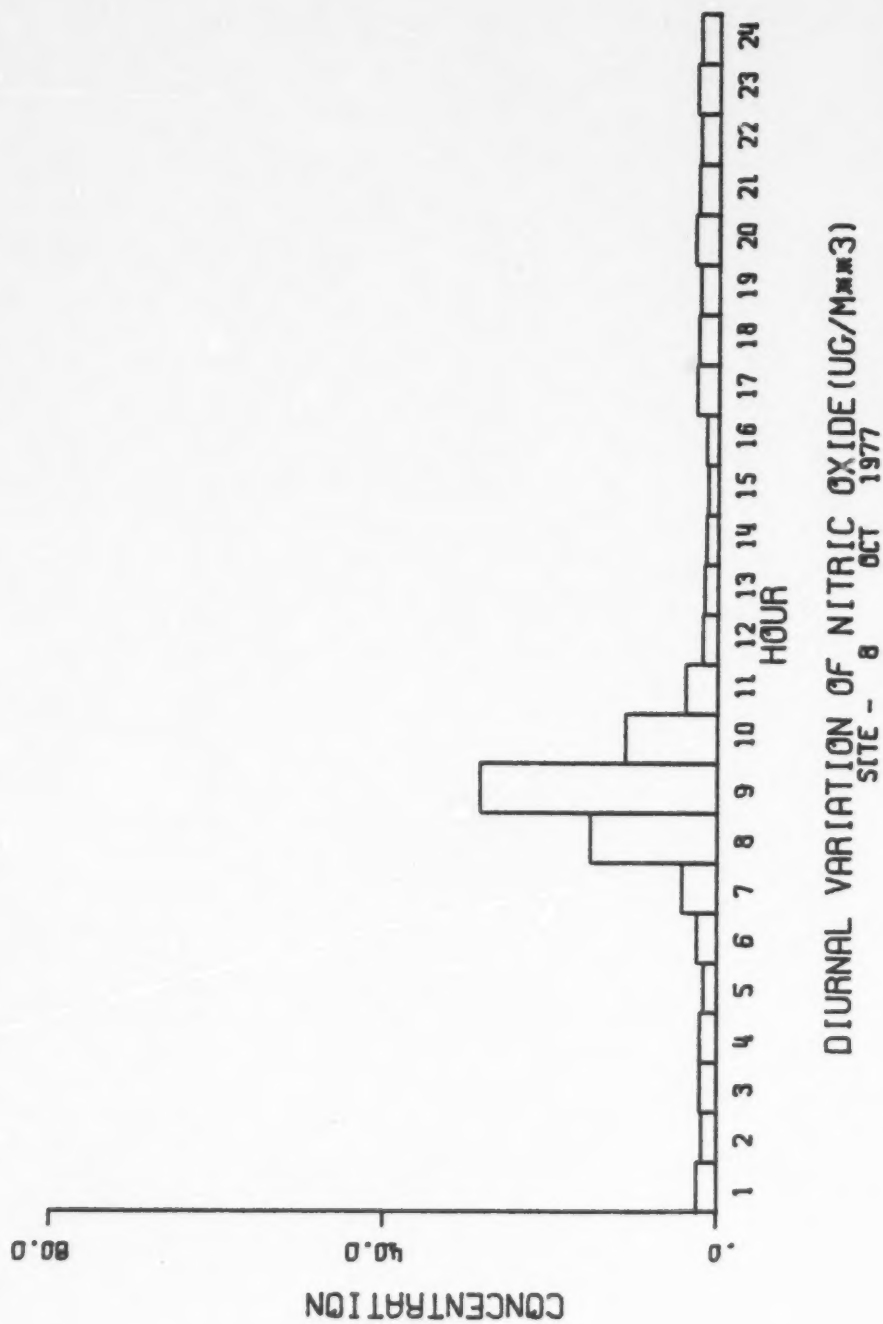


FIGURE 5.1-5

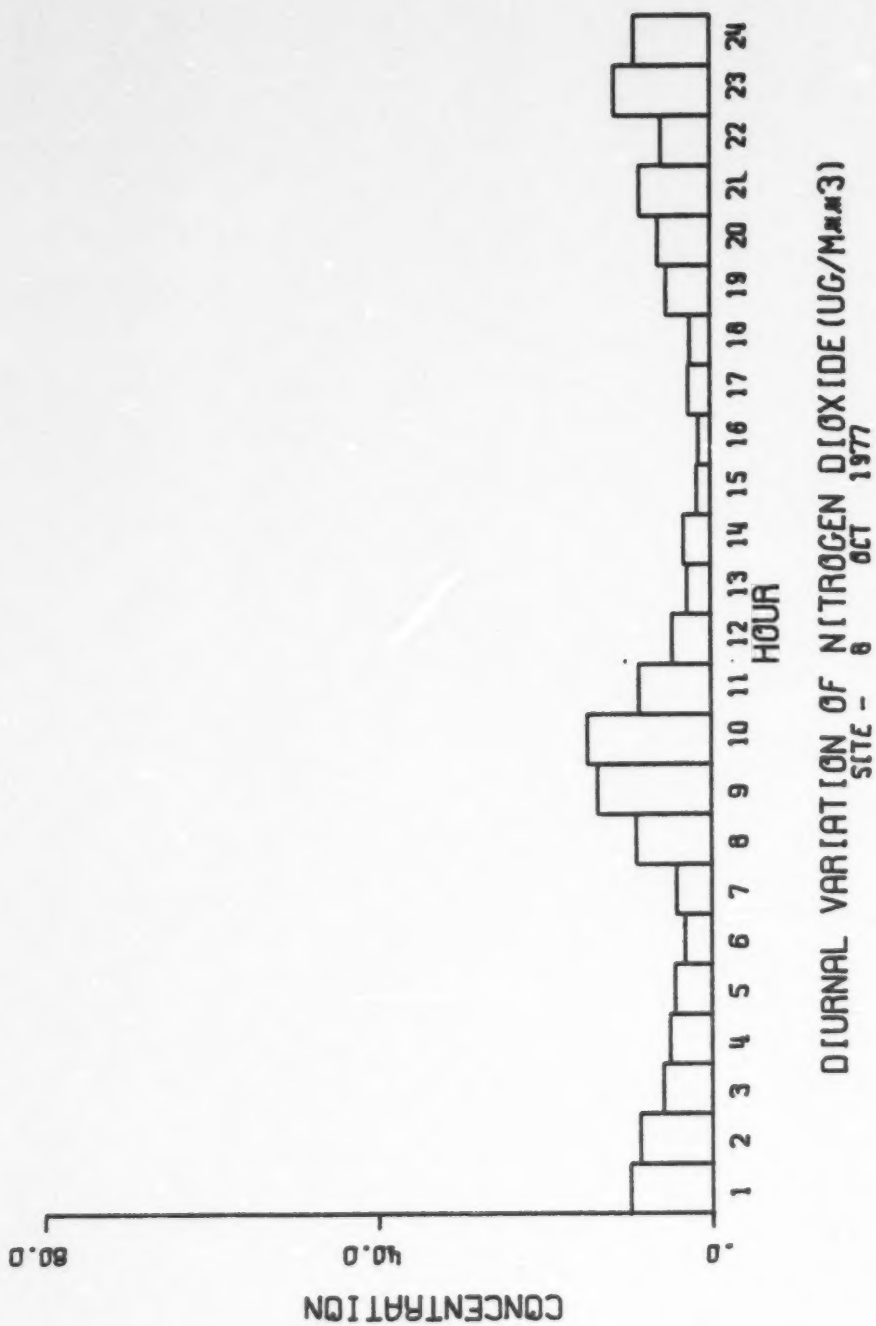
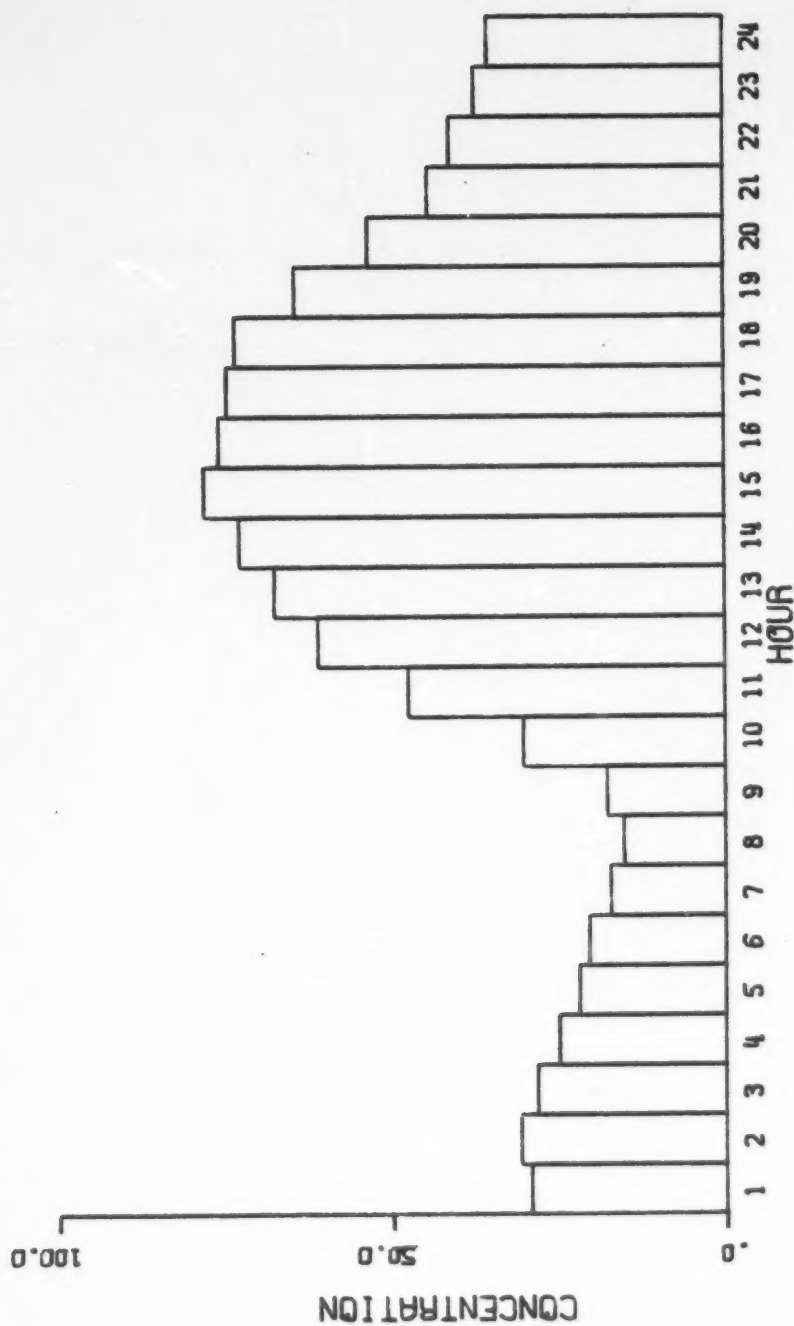
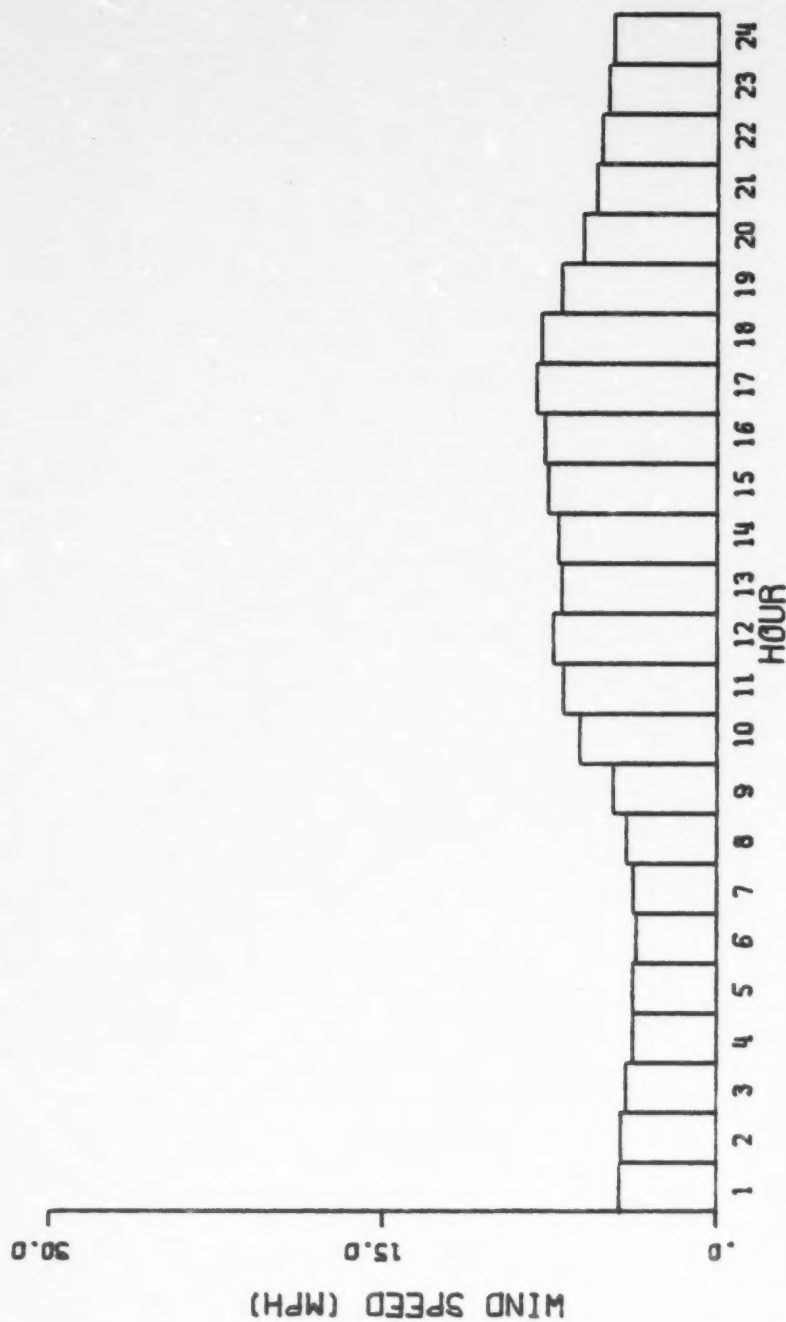


FIGURE 5.1-6



DIURNAL VARIATION OF OZONE (PPB)
SITE - 8 OCT 1977

FIGURE 5.1-7



DIURNAL VARIATION OF WIND SPEED (MPH)
SITE - 8 OCT 1977

FIGURE 5.1-8

5.2 Bloomington Data Presentation

The EPA audit results are shown in Tables 5.2-1 to 5.2-3 for Bloomington. As seen, all audit results are within acceptable limits. Results of Radian's audits are presented in Tables 5.2-4 through 5.2-6. All audit results were acceptable except the NO_x and NO audits on October 20. As a result of these audits, the NO_x and NO data from 1000 on October 20 to 1200 on October 22 was invalidated.

Plots of the instrument spans are shown in Figures 5.2-1 through 5.2-5. All responses are within the acceptable limits with the exception of the ozone response on several occasions. However, as previously noted, the ozone span values were not used in updating the ambient data, so the drift had no affect on ambient readings. Subsequent audits on this analyzer proved satisfactory. Therefore, no data loss occurred because of the excess drift.

The instrument downtime at Bloomington is given in Table 5.2-7. The major downtime was associated with the hydrocarbon chromatograph, causing a data loss of 285 hours. Most of the problems were associated with bad circuit boards and bad columns. These problems were resolved by October 16, prior to the collection of the 6 - 9 a.m. bag samples. The other major data loss occurred on November 1 and 2, resulting from the printer going down. The NO_x, NO data loss from October 20-22 resulted from excess audit error, as noted previously.

The total instrument downtime at Bloomington was 734 hours, yielding a valid data return of 91 percent.

The five highest one-hour averages are given for each pollutant (except hydrocarbons) in Table 5.2-8. The diurnal variation of the pollutants and meteorological parameters are given in Tables 5.2-9 through 5.2-18. Tables are included for NO_x , NO , NO_2 , O_3 , THC, CH_4 , non-methane hydrocarbons, wind speed, wind direction, and temperature. Plots of the diurnal variations for October are shown in Figures 5.2-6 through 5.2-13 for NO_x , NO , NO_2 , O_3 , THC, CH_4 , non-methane hydrocarbons, and wind speed, respectively.

Wind rose tables for the period 24 September - 7 November and October are given in Tables 5.2-19 and 5.2-20. Pollution rose tables for NO_x , NO , NO_2 , O_3 , THC, CH_4 , and non-methane hydrocarbons are presented in Tables 5.2-21 through 5.2-27, respectively.

The daily 6 - 9 a.m. average concentrations for THC, CH_4 , and non-methane hydrocarbons are presented in Table 5.2-28. These concentrations were calculated from the 6 - 7, 7 - 8, and 8 - 9 a.m. one-hour averages for each parameter. Values for THC and non-methane hydrocarbons are reported as CH_4 .

TABLE 5.2-1
EPA AUDIT RESULTS FOR NO_x AND NO
BLOOMINGTON, TEXAS

<u>Date</u>	<u>Standard ppm</u> <u>NO</u>	<u>Indicated ppm</u>		<u>Percent</u> <u>Difference</u>	
		<u>NO_x</u>	<u>NO</u>	<u>NO_x</u>	<u>NO</u>
9/28	0	0.009	0	-	-
	0.120	0.121	0.113	+0.8	-5.8
	0.180	0.184	0.176	+1.7	-2.8
	0.241	0.245	0.237	+1.7	-1.7
	0.362	0.361	0.358	+0.3	-1.1
10/26	0	0.006	0.001	-	-
	0.120	0.122	0.120	+1.7	0
	0.181	0.183	0.183	+1.1	+1.1
	0.241	0.244	0.245	+1.2	+1.7
	0.362	0.356	0.362	-1.7	0

TABLE 5.2-2
EPA AUDIT RESULTS FOR O₃
BLOOMINGTON, TEXAS

<u>Date</u>	<u>Standard ppm</u>	<u>Indicated ppm</u>	<u>Percent Difference</u>
9/28	0	0	-
	0.120	0.117	-2.5
	0.187	0.190	+1.6
	0.321	0.339	+5.6
	0.455	0.483	+6.2
10/26	0	0	-
	0.120	0.113	-5.8
	0.187	0.173	-7.5
	0.321	0.290	-9.6
	0.455	0.410	-9.9

TABLE 5.2-3
EPA AUDIT RESULTS FOR THC AND CH₄
BLOOMINGTON, TEXAS

<u>Date</u>	<u>Standard ppm</u>	<u>Indicated ppm</u>		<u>Percent Difference</u>	
		<u>THC</u>	<u>CH₄</u>	<u>THC</u>	<u>CH₄</u>
10/26	3.420	3.737	3.254	+9.3	-4.9

TABLE 5.2-4
RADIAN AUDIT RESULTS FOR NO_x AND NO
BLOOMINGTON, TEXAS

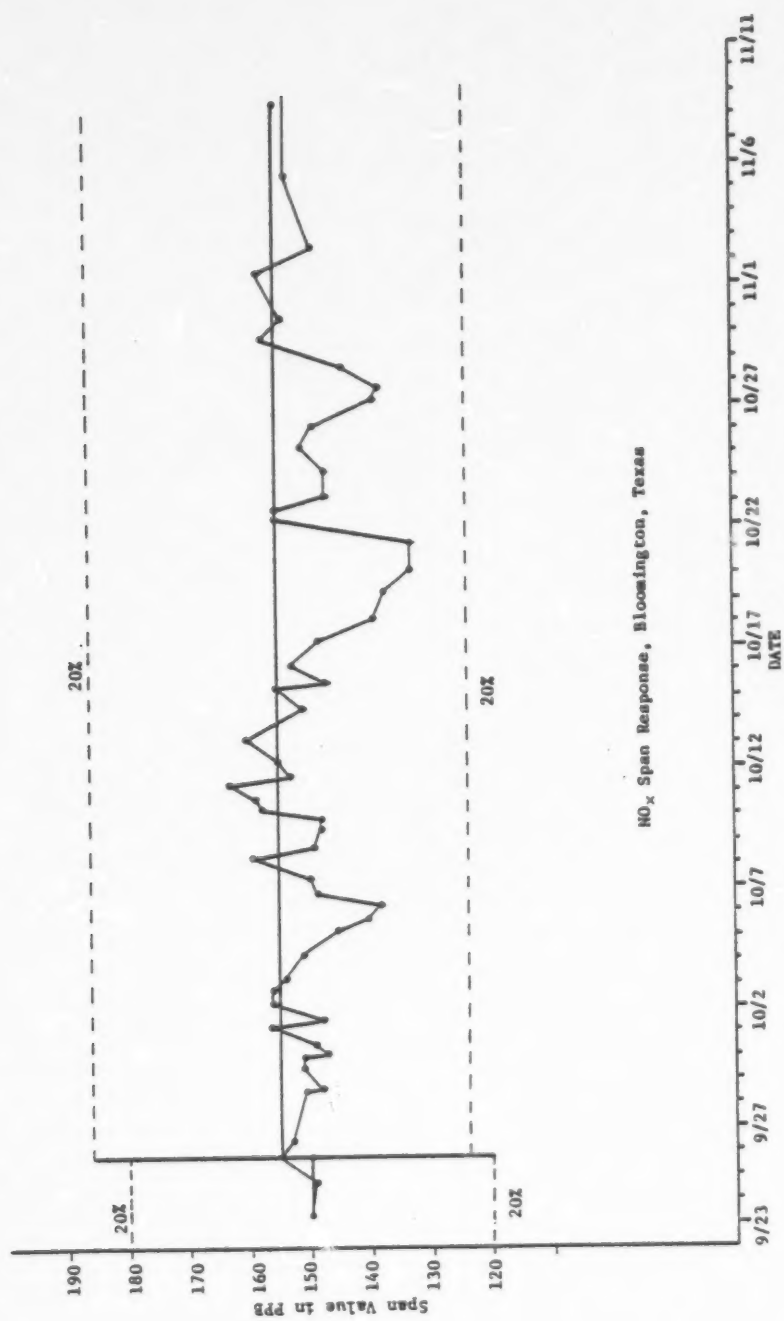
<u>Date</u>	<u>Standard ppm</u> <u>NO</u>	<u>Indicated ppm</u>		<u>Percent</u> <u>Difference</u>	
		<u>NO_x</u>	<u>NO</u>	<u>NO_x</u>	<u>NO</u>
9/26/77	0.440	0.441	0.436	-0.45	-1.58
	0.284	0.282	0.281	-0.70	-1.06
	0.193	0.189	0.184	-2.07	-4.66
	0.145	0.139	0.134	-4.14	-7.59
10/05/77	0.371	0.297	0.310	-19.9	-16.4
	0.104	0.089	0.082	-14.4	-21.2
10/10/77	0.422	0.402	0.400	-4.74	-5.21
	0.271	0.255	0.254	-5.90	-6.27
	0.183	0.171	0.170	-6.56	-7.10
	0.139	0.133	0.130	-4.32	-6.47
10/13/77	0.420	0.373	0.391	-11.2	-6.9
	0.216	0.196	0.204	-9.2	-5.6
	0.172	0.158	0.165	-8.1	-4.1
10/20/77	0.516	0.356	0.400	-31	-23
	0.188	0.124	0.139	-34	-26
	0.146	0.094	0.106	-36	-27
11/08/77	0.461	0.404	0.430	-12.4	-6.7
	0.293	0.248	0.261	-15.4	-10.9
	0.169	0.160	0.161	-5.3	-4.7

TABLE 5.2-5
RADIAN AUDIT RESULTS FOR O₃
BLOOMINGTON, TEXAS

<u>Date</u>	<u>Standard ppm O₃</u>	<u>Indicated ppm</u>	<u>Percent Difference</u>
9/23/77	0.440	0.438	-0.47
	0.295	0.299	+1.36
	0.170	0.168	-1.02
9/26/77	0.440	0.427	-2.95
	0.295	0.293	-0.68
	0.170	0.170	0
10/05/77	0.375	0.372	-0.8
	0.102	0.094	-7.8
10/10/77	0.440	0.414	-5.91
	0.295	0.289	-2.03
	0.170	0.164	-3.53
10/13/77	0.342	0.337	-1.5
	0.221	0.220	-0.4
10/20/77	0.342	0.335	-2.0
	0.221	0.223	+0.9
	0.109	0.106	-2.8
11/08/77	0.342	0.334	-2.3
	0.221	0.208	-5.9
	0.109	0.102	-6.4

TABLE 5.2-6
RADIAN AUDIT RESULTS FOR THC AND CH₄
BLOOMINGTON, TEXAS

Date	Standard ppm CH ₄	Indicated ppm		Percent Difference	
		THC	CH ₄	THC	CH ₄
10/05/77	4.83	4.05	4.39	-16.1	-9.1
10/13/77	4.99	4.90	4.00	-1.8	-19.8
10/10/77	5.00	4.67	4.83	-6.6	-3.4
11/08/77	5.00	5.08	4.90	+1.6	-2.0



03-2366-1

Figure 5.2-1

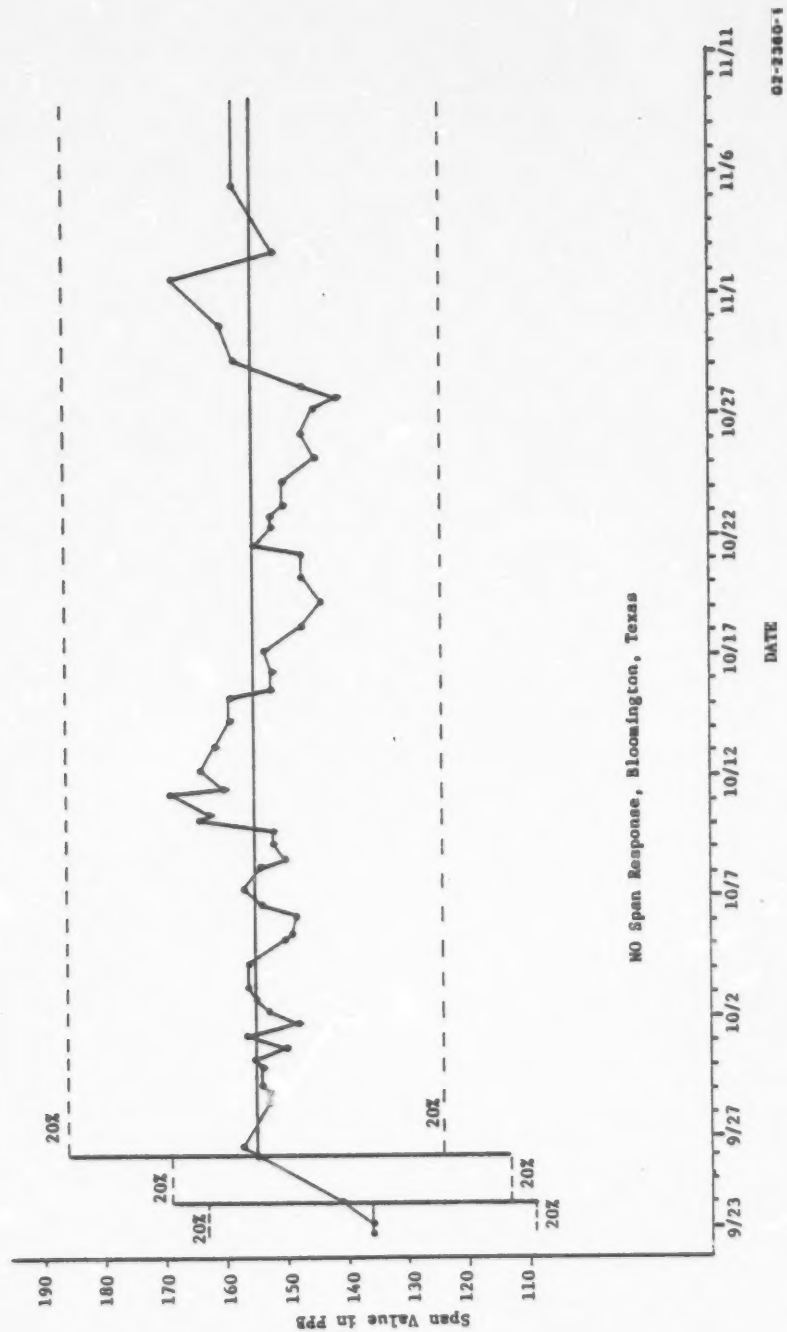
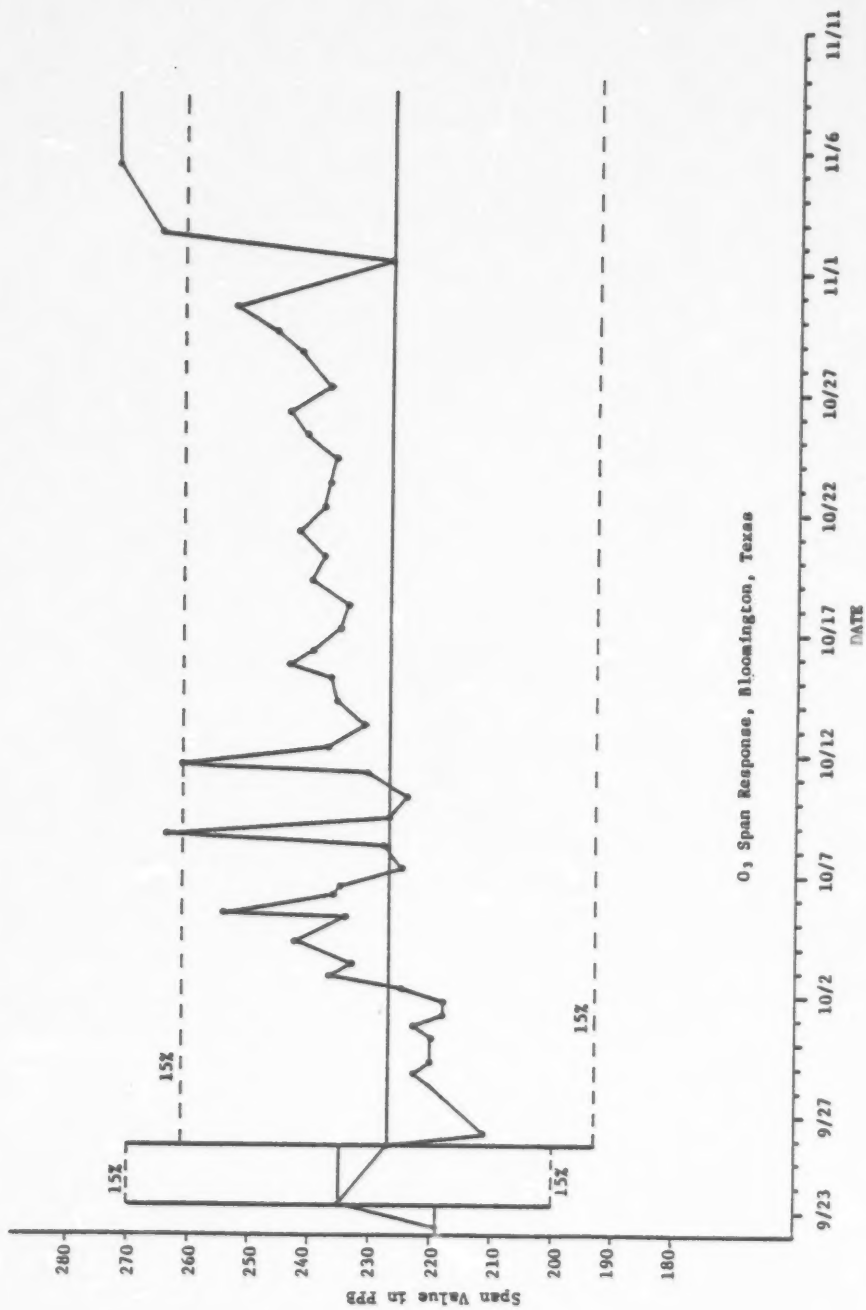


Figure 5.2-2



02-2381-1

Figure 5.2-3

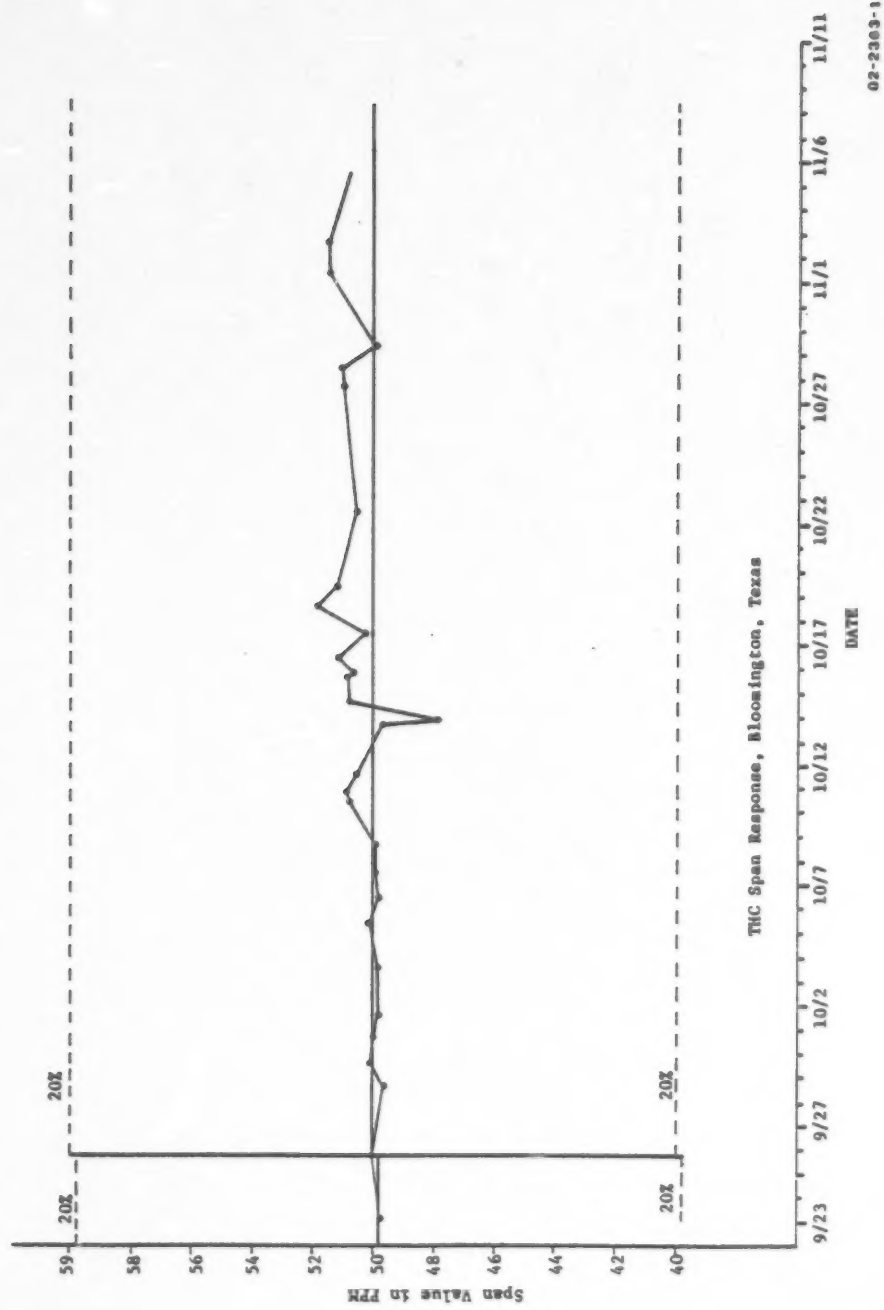


Figure 5.2-4

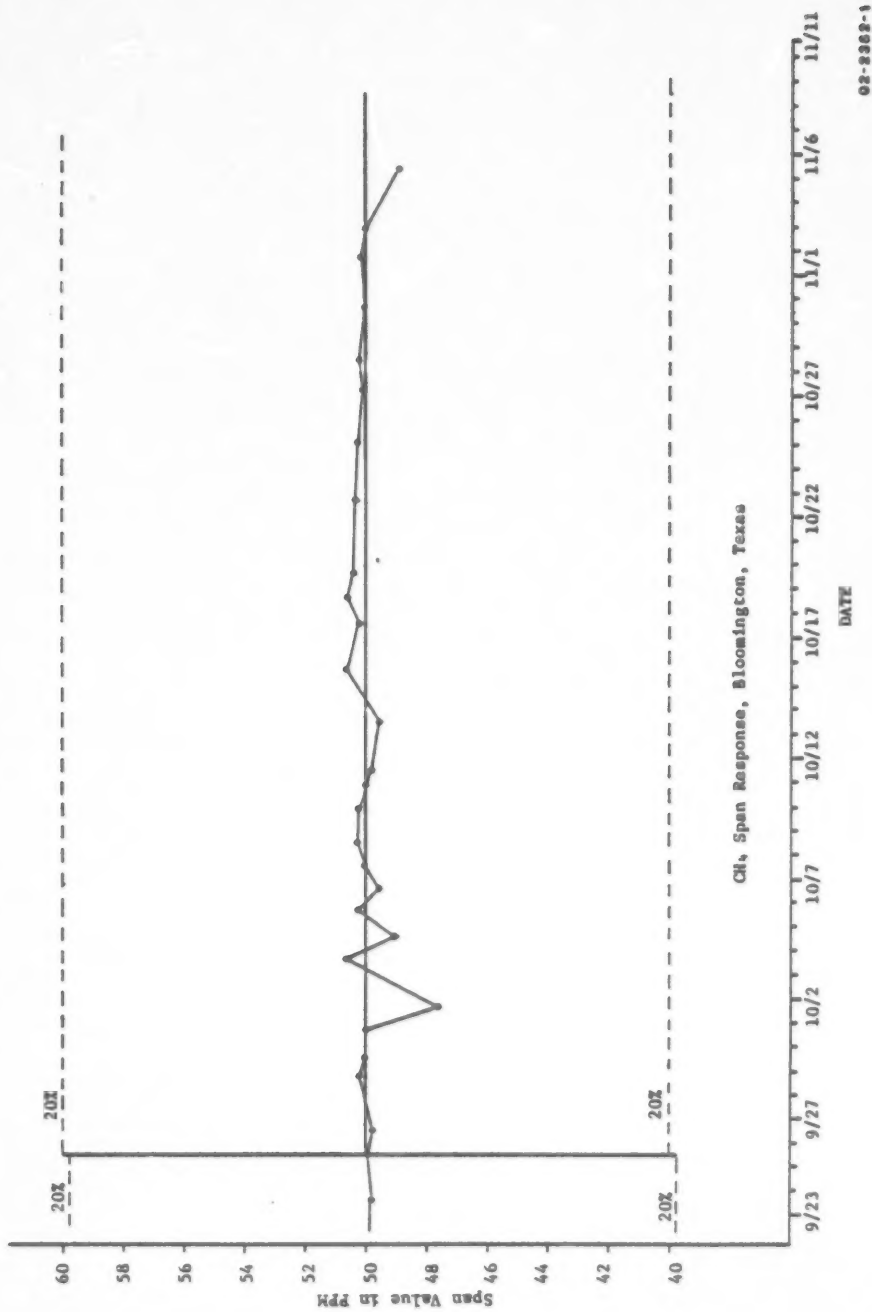


Figure 5.2-5

TABLE 5.2-7
INSTRUMENT DOWNTIME ANALYSIS
BLOOMINGTON TRAILER 019

<u>Date</u>	Instrument Downtime (Hours)							<u>WD</u>
	<u>NO_x</u>	<u>NO</u>	<u>O₃</u>	<u>THC</u>	<u>CH₄</u>	<u>T</u>	<u>WS</u>	
9/24								24
9/25				17	17			24
9/26	14	14		21	21			24
9/27								24
9/28								24
9/29					13			17
10/04				24	24			
10/05				13	13			
10/13				6	6			
10/14				11	11			
10/15				15	15			
10/20	14	14						
10/21	24	24						
10/22	12	12				1	1	1
11/01	14	14	14	14	14	14	14	14
11/02	<u>15</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>15</u>	<u>22</u>	<u>15</u>	<u>15</u>
	93	93	29	136	149	37	30	167

TABLE 5.2-8

THE FIVE HIGHEST ONE-HOUR AVERAGES FOR THE PERIOD 24 SEPTEMBER-11 NOVEMBER
BLOOMINGTON, TEXAS

	<u>Nitrogen Oxides*</u>	<u>µg/m³</u>	<u>ppm</u>
1.	10/13 (0900-1000) -	193	0.103
2.	11/04 (2100-2200) -	159	0.085
3.	10/13 (0400-0500) -	151	0.080
4.	10/12 (2300-2400) -	150	0.080
5.	11/04 (0700-0800) -	140	0.074

	<u>Nitric Oxide *</u>	<u>µg/m³</u>	<u>ppm</u>
1.	10/13 (0800-0900) -	114	0.061
2.	10/19 (0700-0800) -	111	0.059
3.	11/04 (2100-2200) -	109	0.058
4.	11/04 (0700-0800) -	108	0.057
5.	10/13 (0400-0500) -	103	0.055

	<u>Nitrogen Dioxide</u>	<u>µg/m³</u>	<u>ppm</u>
1.	10/13 (0900-1000) -	98	0.052
2.	10/16 (0000-0100) -	84	0.045
3.	10/30 (2100-2200) -	69	0.037
4.	10/12 (2300-0000) -	66	0.035
5.	11/03 (1800-1900) -	63	0.034

	<u>Ozone*</u>	<u>µg/m³</u>	<u>ppm</u>
1.	10/16 (1900-2000) -	310	0.158
2.	10/06 (1800-1900) -	270	0.138
3.	10/27 (0100-0200) -	270	0.138
4.	10/27 (1300-1400) -	269	0.137
5.	10/03 (1700-1800) -	235	0.120

* Concentrations (µg/m³) of NO_x and NO are reported as NO₂.

TABLE 5.2- 9
DIURNAL VARIATION OF NITROGEN OXIDES (NO_x)
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DAILY VARIATION OF NITROGEN OXIDES (UG/M³)
TRAILER NO. - 19 PERIOD 9/24/77 TO 9/30/77

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1
25	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
26	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
27	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	7
28	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	9
29	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
30	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0
MEAN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	0

TOTAL NUMBER OF OBSERVATIONS = 1620. MEAN = 3.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN OXIDES (UG/M³)
TRAILER NO. - 19 PERIOD (10/1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	12	17	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22
4	23	34	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
5	51	10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	11	15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
9	23	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
10	5	11	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
11	8	11	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
12	2	99	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
13	2	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	2	7	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17	92	41	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
18	48	15	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
19	34	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	21	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21																									
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29																									
30																									
31																									
MEAN	14	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14

TOTAL NUMBER OF OBSERVATIONS = 7956. MEAN = 12.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN OXIDES(UG/M*3)
TRAILER NO. - 19 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	1	2	3	4	5	6	7	8	9	10	HOUR				11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN	
1	3	0	3	0	0	1	3/	35	0	0																				
2	45	69	7	4	36	15	18	55	56	15	5	1	1	1	0	0	0	0	0	0	0	0	0	3	1	0	2	29	0	4
3	3	1	13	0	19	11	59	139	59	44	21	33	12	4	3	0	6	30	96	23	5	0	0	5	6	16	16	23	4	23
4	129	28	81	27	9	24	22	69	41	0	3	3	0	5	4	0	0	24	34	38	24	158	64	76	23	35				
5	0	0	3	2	5	54	54	62	0	0	0	0	0	0	0	17	16	20	5	0	0	0	0	0	0	1	1	1	21	
6	0	0	0	0	0	26	84	39	11	0	0	0	0	0	0	0	0	44	9	5	2	18	0	0	0	0	0	0	11	
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
MEAN	30	17	17	6	12	22	46	67	28	11	5	7	3	2	2	4	5	26	29	13	7	36	17	25						

TOTAL NUMBER OF OBSERVATIONS = 1543, MEAN = 19.

1 INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-10
DIURNAL VARIATION OF NITRIC OXIDE (NO)
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DIURNAL VARIATION OF NITRIC OXIDE (UG/M³)
TRAILER NO. - 10 PERIOD(9/24/77 TO 9/30/77)

DAY	- HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	2	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOTAL NUMBER OF OBSERVATIONS = 1626. MEAN = 3.

0 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITRIC OXIDE (UG/M+3)
TRAILER NO. - 19 PERIOD (10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
6	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
7	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
8	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
10	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
11	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
14	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
16	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
17	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
18	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
19	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
20	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
21	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
22	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
23	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
24	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
25	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
26	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
27	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
28	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
29	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
30	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
31	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
MEAN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

TOTAL NUMBER OF OBSERVATIONS = 7956. MEAN = 4.

: INDICATES CALIBRATION DURING THE HOUR

DAILY VARIATION OF NITRIC OXIDE (UG/HOUR)
 TRAILER NO. - 19 PERIOD (11/ 1/77 TO 11/ 7/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	8	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
2	11	35	0	2	0	0	3	30	26	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	3	0	0	0	2	0	44	108	39	22	3	11	2	0	0	0	0	0	0	0	0	0	0	0	0
4	108	7	52	14	0	13	12	52	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19
5	3	0	0	0	0	0	11	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
6	0	0	0	0	0	0	39	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
MEAN	19	7	9	3	2	0	23	43	14	5	1	2	0	0	0	1	1	6	7	0	0	23	10	11	

TOTAL NUMBER OF OBSERVATIONS = 1543. MEAN = 9.

1 INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-11
DIURNAL VARIATION OF NITROGEN DIOXIDE (NO₂)
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DAILY VARIATION OF NITROGEN DIOXIDE (UG/M³)
TRAILER NO. - 19 PERIOD 9/24/77 TO 9/30/77

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	2	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	1	2	2	1	0	0	0	0	1
25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	3	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
29	15	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
30	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	3	0	0	0	0	0	2	1	2	1	1	2	1	0	0	0	0	0	0	0	0	1	2	3	3

TOTAL NUMBER OF OBSERVATIONS = 1925. MEAN = 1.

0 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M*3)
TRAILER NO. - 19 PERIOD (10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	12	17	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	21	33	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	40	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	2	15	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	13	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	6	5	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	11	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	24	58	41	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	2	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	7	15	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	33	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	15	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	20	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	21	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MEAN	13	11	7	4	10	10	14	10	10	13	7	4	2	1	1	1	3	1	1	3	7	10	14	10	14

TOTAL NUMBER OF OBSERVATIONS = 7056. MEAN = 9.

! INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NITROGEN DIOXIDE (UG/M*3)
TRAILER NO. - 19 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	2	0	0	0	0	1	29	27	0	0															
2	33	33	7	2	27	14	14	24	30	12	5	1	1	1	1	1	0	0	0	3	1	0	2	29	6
3	2	1	10	0	10	10	15	31	19	22	18	22	10	3	2	0	5	24	63	22	5	0	16	11	4
4	29	20	29	13	9	11	9	17	20	0	2	0	0	0	5	4	0	24	31	30	24	49	17	25	15
5	0	0	0	2	5	29	43	25	0	0	0	0	0	0	0	13	11	19	5	0	0	0	1	1	16
6	0	0	0	0	0	0	45	24	10	0	0	0	0	0	0	0	0	29	9	5	2	12	0	0	9
7	11	9	0	3	14	14	26	24	14	6	5	5	3	2	2	3	4	20	22	12	7	13	0	14	6

TOTAL NUMBER OF OBSERVATIONS = 1543, MEAN = 11.

0 INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-12
DIURNAL VARIATION OF OZONE (O_3)
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DIURNAL VARIATION OF OZONE(MPH)
 TRAILER NO. - 19 PERIOD(9/24/77 TO 9/30/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24	12	10	12	11	13	12	10	6	10	15	18	19	18	19	14	14	14	14	12	11	11	11	11	10
25	12	9	9	10	8	7	6	10	8	1	1	19	19	20	20	19	19	15	14	11	11	9	9	14
26	12	20	23	22	24	22	22	18	5	5	1	23	22	23	15	16	20	20	16	17	17	16	15	14
27	17	15	14	13	12	7	4	4	8	16	21	24	29	18	17	17	16	16	25	26	20	18	17	20
28	11	0	8	9	10	9	9	8	12	14	24	30	30	30	13	21	20	20	19	15	7	1	0	12
29	9	9	8	11	8	4	9	12	14	21	25	28	28	27	26	24	24	21	19	18	7	9	10	15
30	11	12	13	14	13	11	11	10	10	15	23	25	25	23	20	19	19	18	16	16	16	16	15	17
MEAN																								

TOTAL NUMBER OF OBSERVATIONS = 1760. MEAN = 16.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF OZONE (PPH)
TRAILER NO. - 19 PERIOD(10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	14	19	20	16	17	15	15	14	15	17	19	21	21	21	21	16	16	13	12	9	9	11	13	13	16
2	17	24	22	20	19	19	21	21	21	26	28	29	34	46	68	79	96	120	115	13	15	40	34	30	16
3	14	6	4	8	4	4	4	6	14	33	49	74	76	81	83	88	98	87	77	62	47	38	35	33	48
4	9	27	41	38	25	25	15	14	18	38	59	71	78	82	79	1	69	70	69	55	40	33	31	29	45
5	25	30	31	32	29	28	11	10	19	43	1	87	95	105	113	109	129	138	118	78	57	49	40	40	65
6	51	38	23	13	16	4	1	3	13	35	43	39	39	42	43	43	29	29	23	20	16	10	13	14	27
7	18	15	10	20	18	14	12	4	7	28	40	45	49	54	55	40	43	34	31	24	16	11	7	7	26
8	7	28	46	31	32	32	32	29	31	32	33	39	49	66	84	87	85	88	73	60	56	44	58	55	49
9	48	38	31	21	13	12	11	5	3	8	7	23	27	28	29	29	25	21	8	7	12	10	8	4	16
10	3	1	4	8	6	4	0	13	21	20	17	24	42	51	58	63	65	63	55	45	44	46	41	37	31
11	33	32	30	27	32	28	16	17	25	39	43	34	34	37	40	40	40	39	31	1	1	0	0	0	26
12	8	4	4	0	3	4	5	1	4	11	55	52	58	58	1	85	87	115	101	81	66	57	53	55	43
13	49	51	60	46	44	37	26	13	24	58	74	77	75	73	71	70	71	72	66	45	17	23	31	35	51
14	35	27	33	32	29	37	36	8	8	29	61	76	82	89	94	94	90	71	60	46	46	46	42	76	53
15	75	63	52	44	38	35	33	26	28	38	43	49	57	63	64	65	64	62	47	158	49	26	101	16	55
16	3	34	54	59	51	39	21	21	28	57	82	87	87	86	82	67	65	62	57	48	23	16	31	14	49
17	5	17	17	13	7	4	15	14	20	40	71	75	76	75	74	73	71	71	68	60	49	36	28	8	42
18	6	5	30	35	24	7	2	0	4	30	69	70	69	72	80	71	70	70	67	61	41	7	31	11	39
19	27	38	41	39	24	29	31	22	16	45	63	69	71	67	70	67	64	63	55	41	34	25	21	20	43
20	16	7	11	15	20	15	8	13	16	33	37	45	47	46	44	41	29	47	58	41	39	34	32	30	31
21	31	37	38	10	9	19	29	28	31	41	36	1	42	49	56	58	53	51	49	40	40	38	28	34	38
22	34	19	14	19	20	15	10	11	11	14	29	47	68	78	78	80	81	82	68	60	51	39	17	18	41
23	28	12	18	41	38	38	20	19	31	17	32	24	30	34	40	40	45	42	27	18	5	2	6	10	27
24	8	0	0	3	4	3	1	2	4	17	33	47	58	64	69	62	61	53	31	21	13	29	29	14	27
25	12	16	20	7	3	1	2	1	7	17	33	74	100	137	127	105	113	105	80	56	52	49	49	63	28
26	128	137	54	20	28	17	7	4	8	28	65	74	98	98	86	83	83	79	71	63	59	57	43	58	68
27	61	62	71	55	62	56	42	24	24	63	87	95	98	98	86	83	83	79	71	63	49	41	38	33	64
28	72	51	39	34	12	8	10	12	11	24	47	64	71	76	82	1	87	67	60	55	42	1	16	51	51
29	63	64	64	51	44	49	49	15	11	55	64	61	62	58	51	51	51	52	52	42	37	1	16	51	37
30	30	31	30	27	23	20	17	13	20	33	46	55	60	66	67	66	67	66	66	50	48	48	48	49	51
31	30	31	30	27	23	20	17	13	20	33	46	55	60	66	67	66	67	66	66	50	48	48	48	49	51
MEAN																									

TOTAL NUMBER OF OBSERVATIONS = 8336. MEAN = 41.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF OZONE (PPH)
TRAILER NO. - 19 PERIOD (11/ 1/77 TO 11/ 7/77)

DAY	1	2	3	4	5	6	7	8	9	10	HOUR												23	24	MEAN	
1	44	50	48	50	54	53	20	31	52	55																47
2	11	14	16	17	6	4	2	5	13	20	37	48	51	53	53	62	57	46	32	25	25	26	25	12	12	47
3	24	24	15	21	10	6	3	1	9	18	33	38	47	51	58	53	46	33	7	19	29	30	16	18	24	24
4	12	12	3	20	18	18	14	11	17	38	50	62	63	59	56	52	56	36	16	13	17	8	20	7	25	25
5	23	28	8	6	1	1	3	9	35	44	56	72	85	92	92	89	73	48	34	41	33	20	18	21	32	32
6	31	38	44	35	27	14	1	14	23	42	44	51	51	50	48		34	37	32	30	22	37	33	40	40	40
7	24	28	22	25	20	16	9	12	25	37	44	54	60	62	62	66	57	39	26	26	27	22	24	19	34	34
MEAN																										

TOTAL NUMBER OF OBSERVATIONS = 1543. MEAN = 33.

! INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-13
DIURNAL VARIATION OF TOTAL HYDROCARBONS
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DIURNAL VARIATION OF TOTAL HYDROCARBONS (UG/M³ X 10⁻¹)
TRAILER NO. - 19 PERIOD(9/24/77 TO 9/30/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24	349	332	558	614	571	124	110	108	114	127	106	133	99	99	103	101	107	102	109	129	133	101	103	104
25	102	102	128	100	107	110	111																	
26																								
27	125	124	124	115	129	135	131	285	303	171	111	119	124	117	114	117	119	120	165	122	125	121	121	124
28	125	126	127	129	151	331	227	473	181	146	140													
29	345	200	124	1134	144	142	146	179	153	133	133	120	117	113	149	194	115	116	133	166	209	202	122	120
30	119	120	122	1135	137	134	131	126	120	111	111	111	111	111	111	116	115	1	169	120	117	126	117	123
MEAN	180	169	194	242	200	164	142	220	181	144	123	120	112	112	153	130	114	114	126	170	181	164	164	168

TOTAL NUMBER OF OBSERVATIONS = 1411, MEAN = 162.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TOTAL HYDROCARBONS (UG/M+3 X 10+4-1)
TRAILER NO. - 19 PERIOD (10/1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	114	115	114	1116	117	119	121	121	115	113	112	108	108	113	114	1116	129	151	167	173	173	128	126	124	
2	184	148	125	1138	251	272	222	358	169	116	116	113	122	110	115	132	133	1148	165	151	174	156	166	166	
3	175	160	165	1171	166	164	162	166	164	167	167	167	167	167	167	167	167	167	167	167	167	167	167	167	
4																									
5																									
6	195	292	196	1243	251	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	247	
7	197	218	283	1267	238	224	197	232	173	141	156	159	139	127	119	116	1128	140	172	137	137	137	137	137	
8	135	134	142	1174	193	226	281	294	193	131	129	119	121	118	122	141	168	214	219	177	192	283	178	174	
9	193	156	158	1154	158	161	166	168	169	174	167	166	166	159	143	158	181	1143	152	161	171	164	164	164	
10	176	243	345	1253	340	297	245	304	218	317	174	149	123	118	116	123	139	1118	144	135	198	198	198	198	
11	224	144	137	1153	228	529	229	151	142	144	144	146	143	133	134	136	136	132	145	158	158	157	173	173	
12	169	169	171	1178	184	193	197	193	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188	188	
13	303	521	453	1309	413	314	308	405	436	272	174	155	147	1158	135	165	1158	135	165	1158	135	165	1158	135	
14																									
15																									
16	242	234	236	1241	252	264	268	267	269	278	253	1159	162	165	165	165	165	165	165	165	165	165	165	165	
17	473	625	582	1405					346	263	212	169	168	167	167	169	171	200	260	371	395	433	426	284	
18																									
19	576	465	247	1255	50	149	53	527	366	255	211	142	145	143	142	154	146	147	266	227	367	522	589	254	
20	535	542	516	1543	556	295	373	439	317	207	153	138	145	144	143	142	152	249	300	207	246	320	237	296	
21	327	507	334	1253	235	442	378	225	247	196	148	143	138	151	162	195	229	178	250	177	143	153	162	225	
22	163	101	195	1304	252	199	219	201	212	132	1270	328	329	330	313	301	301	301	301	301	301	301	301	268	
23	191	219	220	1291	314	244	341	254	247	228	214	201	175	159	156	158	160	252	172	1204	268	300	229		
24	197	238	211	1205	231	222	224	231	213	210	212	215	204	182	169	161	154	190	287	247	434	456	241		
25	622	638	643	1406	321	373	484	327	249	208														360	
26	320	428	366	1406	463	426	477	415	309	263	204	195	215	217	216	439	513	240	332	147	168	191	314		
27	221	242	257	1594	607	395	533	472	325	269	257	223	185	163	147	158	170	307	513	536	392	344	332		
28	573	628	564	1255	358	364	333	374	400	205	164	153	1158	139	146	158	181	178	293	233	199	247	286		
29	183	199	191	195	249	445	352	393	515	269	197	164	161	152	151	1131	133	160	214	258	429	475	255		
30	273	474	404	281	335	346	255	366	294	293	166	142	137	134	131	129	158	138	147	227	284	321	339	252	
31	251	165	152	176	305	271	263	283	201	136	124	132	124	119	126	126	136	139	143	139	169	146	153	172	
MEAN	275	341	283	233	282	298	284	287	300	250	230	160	162	157	155	153	162	171	186	246	264	268	263	273	

103

TOTAL NUMBER OF OBSERVATIONS = 7239. MEAN = 234.

1 INDICATES CALIBRATION DURING THE HOUR

DAY	HOUR																								MEAN
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1	156	146	180	165	174	179	257	259	145	130															
2	309	208	235	282	391	375	412	437	243	290	177	155	161	159	162	1121	134	145	179	229	244	302	271	254	180
3	217	215	218	243	278	295	293	230	298	182	168	161	157	153	156	1140	193	217	207	191	201	289	211	213	
4	281	293	296	251	251	246	249	221	164	169	157	150	152	155	159	162	254	236	251	277	259	248	218		
5	432	377	326	358	435	462	415	448	299	182	159	136	153	153	148	225	196	225	273	223	254	344	224		
6	198	240	207	213	200	372	473	512	366	335	152	136	135	126	116	344	303	447	486	312	299	304			
7	258	260	244	250	296	318	340	351	246	217	172	158	150	152	148	154	193	237	240	267	292	261	271	247	
MEAN																									

TOTAL NUMBER OF OBSERVATIONS = 1496, MEAN = 240.

TOTAL NUMBER OF OBSERVATIONS =

INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-14
DIURNAL VARIATION OF METHANE (CH₄)
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DAILY VARIATION OF METHANE (UG/M. **3X 10**1)
TRAILER NO. - 19 PERIOD(9/24/77 TO 9/30/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	326	284	526	523	522	189	91	91	89	83	84	82	80	88	84	85	88	83	84	180	181	75	73	74	157
25	71	71	73	72	69	76	69																		71
26	185	183	183	94	188	187	182	212	238	139	1109	104	104	104	183	181	185	188	115	139	181	188	186	185	186
27	96	95	94	92	183	234	154	325	119	91	85				232	135	79	85	136	186	186	185	183	289	117
28	171	185													130	118	189	128	147	188	174	99	97		145
29															88	87	91	91	1	1134	183	91	93	82	132
30	96	94	95		181	182	97	93	91	92	98	88	88	87	88	91	91	99	95	182	132	135	128	112	95
MEAN	137	125	179	198	174	125	182	181	135	182	87	94	91	91	128	186	99	95	182	132	135	128	112	112	

TOTAL NUMBER OF OBSERVATIONS = 1267. MEAN = 126.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF HEPTANE (UG/M**3 X 10**3-1)
 TRAILER NO. - 19 PERIOD(10/ 1/77 TO 10/31/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	92	98	88																					
2	151	118	96																					
3	109	112	114																					
4																								
5																								
6	117	118	112																					
7	123	137	187																					
8	103	141	103																					
9	141	121	110																					
10	113	158	237																					
11	139	109	195																					
12	115	113	114																					
13	172	295	249																					
14																								
15																								
16	127	117	114																					
17	324	578	331																					
18	525	463	644																					
19	459	367	163																					
20	476	450	438																					
21	221	278	215																					
22	111	132	135																					
23	120	138	141																					
24	122	162	141																					
25	524	588	600																					
26	211	291	253																					
27	132	143	159																					
28	482	580	480																					
29	113	125	115																					
30	108	393	321																					
31	208	121	108																					
MEAN	211	234	219																					

TOTAL NUMBER OF OBSERVATIONS = 7364. MEAN = 169.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF METHANE (UG/M**3 X 10**11)
TRAILER NO. - 19 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	109	114	147	130	133	142	145	207	108	100														
2																								
3	107	177	135	176	271	256	267	320	147	119	111	107	108	107	100	1105	1106	106	121	155	157	201	173	153
4	120	117	119	119	141	171	186	184	142	124	116	116	118	114	109	112	136	142	131	113	113	117	120	117
5	172	107	104	158	156	150	154	156	146	118	112	110	109	114	115	118	100	109	101	159	167	193	164	152
6	315	280	235	261	339	344	295	341	210	140	129	117	115	123	123	114	128	189	276	242	347	402	220	200
7	125	152	141	139	193	263	292	452	260	236	115	107	108	108	114									
MEAN	173	173	161	164	206	220	231	269	165	142	117	111	112	114	115	113	117	143	169	166	161	205	160	172

TOTAL NUMBER OF OBSERVATIONS = 1496, MEAN = 166.

: INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-15
DIURNAL VARIATION OF NON-METHANE HYDROCARBONS
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M³ X 10⁺⁺⁻¹)
 TRAILER NO. - 19 PERIOD(9/24/77 TO 9/30/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24	23	51	32	81	49	15	19	18	26	44	22	51	18	28	19	16	20	19	25	26	31	26	38	38
25	31	32	35	37	38	40	42																	
26																								
27	23	21	21	22	29	27	29	73	65	32	1	9	15	28	14	13	12	11	13	25	28	181	17	19
28	29	31	33	37	47	96	72	148	61	56	55				94	56		36	44	85	122	124	179	211
29	175	193																6	13	19	29	27	23	23
30	23	26	27	1	34	35	37	38	35	28	21	23	23	24	24	24	26	1	1	351	25	251	331	24
MEAN	52	44	38	45	48	43	48	59	47	48	33	26	19	22	34	32	16	10	24	39	46	44	52	56

TOTAL NUMBER OF OBSERVATIONS = 1267. MEAN = 40.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NON-METHANE HYDROCARBONS (UG/M³ X 10⁺⁺⁻¹)
TRAILER NO. - 19 PERIOD(10/ 1/77 TO 10/31/77)

DAY	HOUR																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	24	24	26	1	28	29	31	32	33	26	23	24	21	22	22	20	1	14	17	22	23	29	21	26	25
2	33	30	29	1	41	42	59	55	82	36	26	23	24	34	19	23	30	35	1	43	45	39	44	45	39
3	46	48	52	1	55	57	57	61	63	64	64	64	37	51	57	55	54	55	59		73	88	92	104	62
4				1																					
5				1	97	102	103	105	103	92	1	1	1	34	1	1	34	42	45	52	57	68	65	72	53
6	78	84	84	1	94	88	79	76	86	54	42	43	45	39	29	27	32	36	40	43	48	52	61	64	64
7	73	81	96	1	51	67	42	56	89	51	29	27	1	11	14	13	15	17	23	30	26	27	30	32	51
8	32	32	39	1	51	67	42	56	89	51	29	27	1	11	14	13	15	17	23	30	53	45	51	49	38
9	51	46	48	1	50	54	59	65	68	71	76	71	71	78	68	24	34	39	42	1	34	44	52	59	56
10	63	94	108	1	86	112	100	88	60	53	65	39	28	17	14	13	15	21	32	1	1	17	25	24	51
11	85	32	32	1	39	57	134	62	38	27	30	32	37	35	32	35	37	53	18	32	39	38	44	46	45
12	54	55	58	1	86	69	75	85	78	81	81	25	35	45	45	43	45	47	47	71	74	91	158	183	71
13	134	225	204	1	1214	214	186	234	249	263	166	108	94	90	1	62	47	78	1						162
14				1																					72
15				1	1127	136	147	150	152	158	163	133	1	51	57	61	66	69	70	88	99	158	163	79	115
16	115	117	122																	83	116	101	109	109	85
17	149	46	171	1	1211					190	137	93	64	65	63	65	65	65	71	88	98	50	98	147	110
18				1		173	143	169	167	125	60	52	45	45	40	42	41	48	43	49	49	88	71	125	79
19	116	98	84	1	89	12	33	7	154	123	82	50	35	39	38	38	58	36	33	58	65	84	141	108	69
20	59	90	78	1	1128	135	134	146	158	109	78	44	30	42	44	42	42	44	59	89	79	92	122	88	84
21	106	119	115	1	93	101	109	126	97	90	81	44	42	38	46	54	62	56	48	44	49	30	37	47	71
22	51	59	61	1	82	74	65	94	78	84	24	1	61	88	109	117	107	96	98	104	122	158		77	87
23	71	81	88	98	98	130	92	117	86	88	77	74	63	59	48	42	42	52	58	46	1	45	62	94	75
24	75	76	73	1	65	83	84	94	78	93	86	84	85	78	68	63	59	50	53	76	90	132	90	141	81
25	102	50	43	1	1134	104	122	115	120	95	80	1	1	36	45	47	49	55	86	81	71	99	83	103	82
26	108	117	113	1	1127	132	131	142	118	107	95	80	81	100	96	53	202	357	72	109	30	50	69	78	113
27	89	99	98	1	1129	80	129	08	136	115	98	88	77	61	52	39	41	51	73	119	115	104	78	97	90
28	86	49	84	1	76	94	89	99	95	87	58	46	41	1	36	21	33	37	42	46	79	76	75	73	65
29	71	74	76	79	95	127	105	125	91	73	67	47	43	36	37	1	20	23	33	38	67	75	85	71	68
30	75	81	83	67	96	73	76	93	86	83	48	38	31	28	25	23	43	11	17	41	43	62	61	56	56
31	44	44	44	48	76	66	61	74		37	33	26	25	21	13	17	18	22	27	28	27	34	28	37	37
MEAN	77	75	81	72	94	92	95	99	105	91	73	57	48	47	45	42	49	56	48	62	68	73	74	83	

TOTAL NUMBER OF OBSERVATIONS = 7239, MEAN = 71.

1 INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF NON-METANE HYDROCARBONS (UG/M³ X 10³-1)
TRAILER NO. - 19 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	47	32	33	35	40	37	72	52	37	30														
2	122	111	100	105	120	119	144	117	95	90	65	59	52	52	52	161	28	39	57	74	87	102	98	100
3	97	98	94	99	102	106	109	110	88	84	64	52	43	43	43	44	37	57	75	76	78	84	90	94
4	103	105	112	93	95	96	95	93	76	66	57	47	41	38	40	41	44	52	73	77	85	85	95	96
5	115	97	91	107	96	118	119	107	89	67	53	43	21	29	30	33	37	54	62	76	87	77	90	103
6	72	74	65	75	86	100	108	64	106	99	36	29	26	17	2	3	34	51	69	81	100	84	92	99
7	95	88	84	86	90	98	109	93	81	75	56	47	38	36	37	35	37	51	68	74	87	87	94	90
MEAN																								

TOTAL NUMBER OF OBSERVATIONS = 1496. MEAN = 75.

! INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-16
DIURNAL VARIATION OF WIND SPEED
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DIURNAL VARIATION OF WIND SPEED(MPH)
 TRAILER NO. - 19 PERIOD(9/24/77 TO 9/30/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	4	2	2	3	4	6	6	5	5	11	14	15	16	14	14	15	15	15	13	11	11	11	10	9	10
25	9	7	7	6	7	6	4	5	6	13	15	15	16	15	16	15	14	16	14	11	10	11	10	9	11
26	8	7	8	7	5	4	3	3	2	7	12	13	13	14	16	15	16	16	14	9	8	8	7	6	10
27	7	7	7	6	4	5	3	2	1	4	10	12	11	10	11	11	16	16	14	10	9	7	8	8	9
28	6	6	6	6	4	3	2	4	4	8	9	10	11	13	14	14	15	14	11	8	6	6	5	4	8
29	3	6	6	5	5	4	3	3	4	6	12	11	11	11	10	13	17	17	14	10	8	7	6	8	9
30	7	7	6	6	5	5	5	4	5	6	11	12	13	14	15	17	18	17	16	12	9	10	11	11	11
MEAN	7	6	7	6	5	5	4	4	4	9	12	13	13	13	14	15	16	16	14	11	9	9	9	9	8

TOTAL NUMBER OF OBSERVATIONS = 2012. MEAN = 10.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED(MPH)
TRAILER NO. - 19 PERIOD(10/ 1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	13	13	12	11	10	6	7	6	8	14	15	17	16	17	16	18	18	16	13	11	9	10	11	11	13
2	8	8	7	4	2	2	3	2	2	6	7	6	8	7	9	10	7	10	6	6	8	11	9	11	7
3	10	10	10	9	12	15	14	15	13	13	14	13	12	12	11	10	10	9	8	5	2	3	3	4	10
4	4	5	4	4	5	5	5	5	7	9	8	9	9	8	9	8	9	11	11	6	5	3	4	6	7
5	4	4	4	4	5	5	4	5	5	7	9	10	11	11	13	14	13	12	13	7	4	5	4	4	8
6	4	4	4	4	4	4	4	4	4	8	6	5	9	13	16	16	18	18	14	10	6	8	5	4	9
7	4	4	4	4	3	3	4	2	3	10	14	11	9	10	10	13	13	13	11	7	7	3	3	7	8
8	9	5	5	8	8	7	7	7	8	10	11	11	10	9	7	7	8	9	10	11	10	8	6	4	8
9	5	5	4	5	5	4	4	4	3	3	2	4	6	11	12	12	11	11	9	7	6	5	4	6	9
10	5	4	4	3	2	1	2	16	13	18	16	15	15	15	15	13	13	11	8	8	9	5	7	6	7
11	3	4	2	3	8	7	4	3	8	10	13	11	11	12	11	11	9	9	5	3	3	2	1	2	10
12	2	3	3	3	3	4	4	3	2	2	2	4	4	5	6	3	5	9	9	6	5	4	4	3	5
13	3	4	3	3	2	3	3	3	3	4	5	5	5	8	12	13	14	11	10	6	5	4	6	2	5
14	4	5	5	5	4	4	3	4	4	4	5	11	11	12	12	13	14	14	10	4	5	3	3	4	7
15	4	5	6	6	5	4	6	5	7	11	11	8	7	6	5	4	3	3	6	2	3	6	6	2	6
16	5	7	4	4	4	5	6	5	4	7	11	9	9	8	8	8	12	12	3	7	6	3	3	4	7
17	2	3	4	4	4	5	2	3	3	4	7	9	5	8	8	11	12	12	10	6	5	6	3	5	6
18	4	4	1	4	4	4	4	4	4	4	5	5	5	5	5	9	12	12	10	7	6	3	4	5	6
19	5	4	2	1	1	1	1	1	1	2	5	5	3	3	3	10	14	14	9	6	5	4	6	5	6
20	6	5	5	4	4	4	3	4	4	6	11	12	16	11	10	6	12	12	13	7	6	6	4	6	6
21	5	7	4	5	6	4	5	5	10	7	15	9	9	6	8	10	12	11	9	7	7	5	5	7	8
22	5	5	6	4	4	5	6	6	6	7	7	5	5	6	5	9	4	7	6	4	8	2	2	3	6
23	4	7	10	6	7	6	3	3	10	7	4	7	7	11	13	13	12	4	4	5	8	1	2	3	6
24	2	3	3	2	3	4	2	3	2	4	5	6	6	6	5	4	6	7	6	3	7	2	2	3	4
25	5	3	3	3	3	3	3	3	2	1	1	3	3	3	3	3	5	2	2	3	4	3	3	3	4
26	3	4	1	2	3	3	3	3	3	3	3	4	4	4	4	9	6	8	6	3	3	4	3	3	4
27	4	5	3	1	2	2	2	3	3	3	4	3	3	7	7	9	9	8	7	5	3	3	1	2	4
28	2	3	3	2	3	4	4	2	1	2	3	4	4	4	5	6	10	11	8	6	5	5	5	3	5
29	3	2	3	3	3	4	4	1	2	3	3	4	12	13	13	13	14	13	10	7	4	3	4	4	5
30	4	4	3	3	3	4	1	1	2	3	6	11	12	13	13	16	17	14	18	6	6	7	6	6	7
31	6	7	6	5	6	4	2	1	2	7	12	12	13	13	16	17	17	14	18	11	12	10	10	10	10
MEAN	5	6	5	5	5	5	5	5	5	7	8	8	9	9	9	10	10	11	9	7	6	5	5	5	5

TOTAL NUMBER OF OBSERVATIONS = 8989. MEAN = 7.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND SPEED(MPH)
 TRAILER NO. - 19 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	12	9	6	9	9	7	4	4	7	6						11	9	4	5	5	5	5	5	6
2	5	5	5	3	2	1	2	2	5	9	14	14	9	7	7	6	6	3	2	3	6	4	3	3
3	5	4	4	5	4	3	4	5	7	8	10	11	11	11	10	9	7	5	3	4	5	5	5	5
4	5	4	5	6	5	5	6	7	7	7	7	7	8	8	8	8	6	4	3	2	2	2	2	2
5	2	2	3	2	1	1	1	1	3	4	4	5	5	3	4	7	8	6	6	4	4	5	5	4
6	4	5	4	4	3	4	5	3	5	13	13	14	17	16	1									
7	5	5	5	6	5	4	4	4	6	8	9	10	10	10	7	9	8	5	4	4	5	5	4	5
MEAN																								

TOTAL NUMBER OF OBSERVATIONS = 1547.

MEAN = 7.

! INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-17
DIURNAL VARIATION OF WIND DIRECTION
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DIRECTIONAL VARIATION OF 4TH DIRECTION(DEG)
 TRAILER NO. - 19 PERIOD(9/24/77 TO 9/30/77)

	HOUR																							
DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
24																								
25																								
26																								
27																								
28																								
29																								
30	162	162	160	159	152	152	150	148	167	170	186	173	177	177	155	137	134	136	138	136	146	155	157	144
MEAN	162	162	160	159	152	152	150	148	167	170	186	173	177	177	155	137	134	136	138	136	146	155	157	144

TOTAL NUMBER OF OBSERVATIONS = 372, MEAN = 154.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF WIND DIRECTION(DEG)
TRAILER NO. - 19 PERIOD(18/ 1/77 TO 18/31/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	151	152	158	165	162	168	160	176	176	167	188	172	177	179	149	148	134	135	137	137	136	136	142	146
2	149	148	164	161	159	167	44	52	72	152	161	181	150	170	165	50	345	73	66	52	42	35	22	28
3	33	35	37	32	31	28	35	40	37	32	33	36	34	40	45	46	45	46	45	52	37	26	22	5
4	4	21	10	11	22	23	23	30	36	40	44	64	82	93	98	97	84	89	104	185	98	68	69	78
5	64	28	42	31	19	33	25	34	42	46	64	84	97	102	102	94	102	100	99	94	89	84	83	71
6	53	48	44	42	35	33	21	21	30	38	42	43	42	28	43	59	63	91	100	100	94	80	69	57
7	36	20	18	43	36	63	71	75	90	137	173	151	139	137	140	149	146	144	144	150	148	155	158	155
8	152	164	173	192	191	185	199	215	185	197	202	194	103	195	187	157	151	138	138	135	295	282	270	308
9	204	345	8	350	7	5	8	13	15	24	29	32	49	56	65	77	86	107	108	101	92	77	56	50
10	51	43	44	24	36	46	51	46	36	68	108	200	196	183	178	170	161	152	150	151	156	150	167	118
11	156	166	215	182	176	89	24	344	351	343	343	355	353	353	351	350	6	11	358	351	347	355	352	356
12	359	349	343	344	344	351	351	346	353	321	26	25	20	15	12	9	11	16	11	2	6	21	332	325
13	272	323	312	252	303	299	286	295	327	327	324	273	255	197	182	266	254	153	144	144	167	193	185	195
14	214	213	184	147	146	72	59	41	43	75	123	145	150	146	143	140	140	136	131	122	113	99	86	89
15	95	102	89	96	89	73	47	27	25	62	133	187	140	257	181	125	154	155	154	191	213	209	308	347
16	356	360	3	1	355	357	354	353	358	28	48	43	55	25	14	5	39	48	43	115	152	144	148	157
17	133	94	89	70	58	56	57	53	63	97	110	141	153	149	154	140	145	141	136	128	108	103	108	116
18	121	124	100	26	14	39	47	49	70	100	148	146	157	143	155	150	147	140	147	146	141	145	87	109
19	116	130	160	210	106	14	9	22	23	63	108	214	145	119	156	150	153	152	149	140	126	109	112	113
20	108	110	112	97	116	90	59	37	42	80	121	139	141	104	142	152	152	141	112	104	98	101	104	97
21	102	105	100	94	77	94	131	92	89	113	125	169	150	84	41	101	123	110	116	106	90	82	80	85
22	75	96	55	37	38	49	53	58	58	124	311		21	36	58	66	84	94	91	79	74	368	356	9
23	48	51	44	17	12	345	323	70	39	19	6	6	356	23	6	7	17	18	19	50	52	118	101	111
24	66	313	300	335	23	1	328	340	98	96	106	240	143	113	107	267	256	274	288	297	329	349	19	346
25	108	263	304	290	317	293	310	351	318	339	341	333	338	326	322	323	358	43	93	112	120	161	203	221
26	246	252	269	299	324	318	310	311	190	359	307	257	154	49	89	90	101	128	145	145	170	168	171	195
27	214	241	317	299	311	13	29	64	56	62	78	87	114	165	154	155	156	136	127	103	103	141	143	140
28	99	108	87	27	24	14	20	26	42	64	73	59	54	74	112	109	139	138	141	145	154	164	161	171
29	176	182	191	247	247	259	265	241	47	236	216	206	203	153	148	139	151	146	140	137	141	128	134	151
30	155	144	141	169	150	160	291	58	65	131	163	163	142	139	133	132	136	139	141	134	125	117	116	134
31	145	149	173	159	110	123	207	138	122	155	166	165	145	144	141	139	139	142	144	144	144	140	144	141
MEAN	102	94	71	36	41	37	19	31	47	69	97	141	121	120	121	109	117	115	116	115	112	114	103	104

TOTAL NUMBER OF OBSERVATIONS = 8910. MEAN = 92.

: INDICATES CALIBRATION DURING THE HOUR

JOURNAL VARIATION OF WIND DIRECTION(DEG)
TRAILER NO. - 19 PERIOD(11/ 1/77 TO 11/ 7/77)

DAY	HOUR																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	142	142	136	144	139	134	112	131	153	201															
2	282	287	231	258	309	307	285	284	287	343	335	337	338	322	324	268	271	229	187	185	187	198	208	225	143
3	2	358	339	353	335	330	310	301	292	287	285	296	306	312	320	316	302	321	352	356	348	11	347	355	215
4	285	285	294	291	289	289	289	294	304	322	323	333	318	307	301	305	305	336	314	318	310	303	286	285	316
5	269	274	244	310	308	319	329	319	282	261	228	238	219	206	179	138	136	123	137	136	255	258	272	277	292
6	87	97	80	84	89	103	112	91	99	111	133	138	135	136	41										214
7	298	286	258	309	322	321	302	303	279	283	287	296	293	282	325	299	298	296	278	264	254	258	274	288	102
MEAN																									

TOTAL NUMBER OF OBSERVATIONS = 1547. MEAN = 292.

: INDICATES CALIBRATION DURING THE HOUR

TABLE 5.2-18
DIURNAL VARIATION OF TEMPERATURE
24 SEPTEMBER - 7 NOVEMBER
BLOOMINGTON, TEXAS

DIURNAL VARIATION OF TEMPERATURE(DEG F)
 TRAILER NO. - 19 PERIOD(9/24/77 TO 9/30/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
24	78	78	77	77	77	77	77	77	77	84	86	84	89	90	89	88	87	87	85	83	82	82	81	80	83
25	82	79	78	78	78	77	77	77	77	84	86	87	88	89	89	88	87	87	85	83	82	81	81	81	83
26	83	79	79	78	77	77	76	76	79	83	86	87	89	90	88	88	86	86	84	82	80	80	79	79	83
27	79	78	78	77	76	76	75	75	79	82	84	87	87	89	91	91	88	87	85	82	81	80	80	79	82
28	78	78	77	77	76	75	75	76	79	82	85	87	87	89	89	88	88	86	84	81	79	78	78	78	82
29	78	78	77	77	76	76	75	75	78	81	84	87	89	89	90	90	88	86	84	81	79	79	78	79	82
30	78	78	77	76	75	75	75	76	79	83	85	88	89	90	90	89	88	87	85	82	82	82	82	81	83
MEAN	79	79	78	78	77	77	76	76	80	83	86	88	89	90	90	90	89	87	85	83	81	81	80	80	80

TOTAL NUMBER OF OBSERVATIONS = 2012, MEAN = 83.

! INDICATES CALTHRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE (DEG F)
TRAILER NO. - 19 PERIOD (10/1/77 TO 10/31/77)

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	MEAN
1	61	61	61	61	60	60	60	60	62	65	66	66	69	68	68	67	67	66	65	63	63	63	63	62	64
2	61	61	61	61	60	60	60	60	62	65	66	66	69	68	68	67	67	66	65	63	63	63	63	62	64
3	62	62	61	61	60	60	60	60	62	65	66	66	69	68	68	67	67	66	65	63	63	63	63	62	64
4	62	62	61	61	60	60	60	60	62	65	66	66	69	68	68	67	67	66	65	63	63	63	63	62	64
5	66	64	64	64	63	63	62	63	66	67	68	68	69	68	68	67	67	66	65	63	63	63	63	62	64
6	72	69	69	69	68	68	67	66	69	74	78	81	83	84	86	87	87	85	80	77	74	72	72	70	76
7	69	69	69	69	69	69	70	72	74	79	79	80	80	81	84	86	85	83	82	79	78	78	77	76	77
8	77	77	76	75	75	75	73	73	75	80	84	86	88	88	91	90	88	85	83	81	80	79	76	79	81
9	79	76	74	70	68	68	67	66	67	72	72	72	74	76	77	77	78	77	75	74	73	72	71	69	73
10	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
11	77	77	76	76	76	76	74	73	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
12	59	57	55	53	53	52	49	47	47	53	58	61	63	66	69	70	71	71	70	68	66	65	63	61	70
13	54	54	51	48	50	49	47	47	53	58	61	63	66	69	70	71	71	71	70	68	66	65	63	61	61
14	55	55	55	56	55	54	53	53	53	58	64	74	75	77	77	77	76	75	72	69	67	64	62	62	66
15	61	61	61	60	61	60	60	60	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61	61
16	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66	66
17	59	58	57	56	55	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54	54
18	45	65	64	63	64	62	61	62	63	65	76	82	84	84	85	84	83	84	82	73	71	69	68	67	67
19	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
20	68	67	66	66	67	66	65	64	67	75	79	82	83	84	84	84	83	82	79	74	72	71	71	71	74
21	72	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
22	69	71	70	69	68	68	69	70	72	73	65	65	66	69	71	73	74	73	72	70	70	68	67	68	70
23	67	65	65	65	64	64	65	65	66	68	69	72	76	79	81	82	82	81	78	74	71	70	69	70	72
24	69	69	68	67	67	68	67	67	67	68	69	69	69	69	71	70	73	74	71	69	68	67	66	67	69
25	64	63	64	63	62	62	61	61	64	69	72	74	76	77	79	80	80	79	76	73	71	70	67	67	70
26	67	66	66	65	65	65	65	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64	64
27	67	66	64	65	65	64	64	63	63	67	74	77	79	79	79	78	77	76	74	72	72	71	67	67	72
28	72	72	71	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
29	69	66	63	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
30	74	70	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69	69
31	74	74	73	73	73	73	72	71	72	76	83	82	82	82	83	82	80	78	77	77	77	76	76	76	77
MEAN	53	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60

TOTAL NUMBER OF OBSERVATIONS = 6910. MEAN = 73.

: INDICATES CALIBRATION DURING THE HOUR

DIURNAL VARIATION OF TEMPERATURE (DEG F)
TRAILER NO. - 19 PERIOD (11/ 1/77 TO 11/ 7/77)

DAY	HOUR																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	76	75	75	75	75	75	74	75	78	79														
2	54	54	52	51	50	49	49	52	58	60	63	65	66	68	69	70	70	67	64	63	61	58	55	55
3	54	53	53	53	51	51	50	53	58	63	68	71	72	74	75	76	76	73	69	68	66	65	64	63
4	62	62	61	61	61	60	60	61	65	69	72	75	77	78	79	79	78	74	71	68	66	65	65	64
5	63	63	63	63	60	58	61	64	67	71	75	78	81	81	80	77	73	68	67	67	66	66	66	65
6	63	64	64	64	65	67	68	68	72	76	78	79	79	79	77	77	76	72	69	67	65	64	62	61
7	52	62	61	61	61	60	61	63	67	69	72	74	75	76	77	77	76	72	69	67	65	64	62	61
MEAN																								

TOTAL NUMBER OF OBSERVATIONS = 1457, MEAN = 67.

: INDICATES CALIBRATION DURING THE HOUR

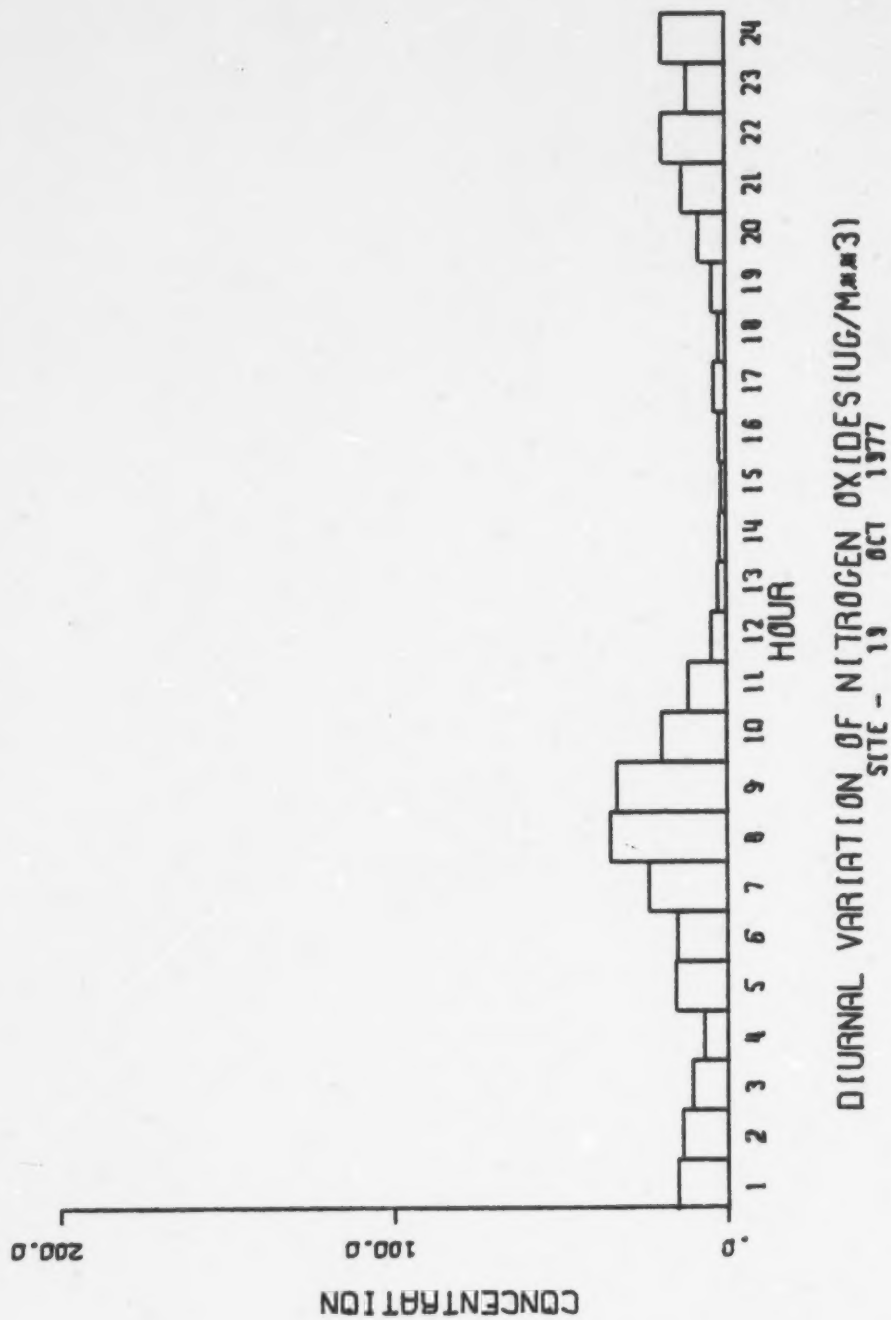


FIGURE 5.2-6

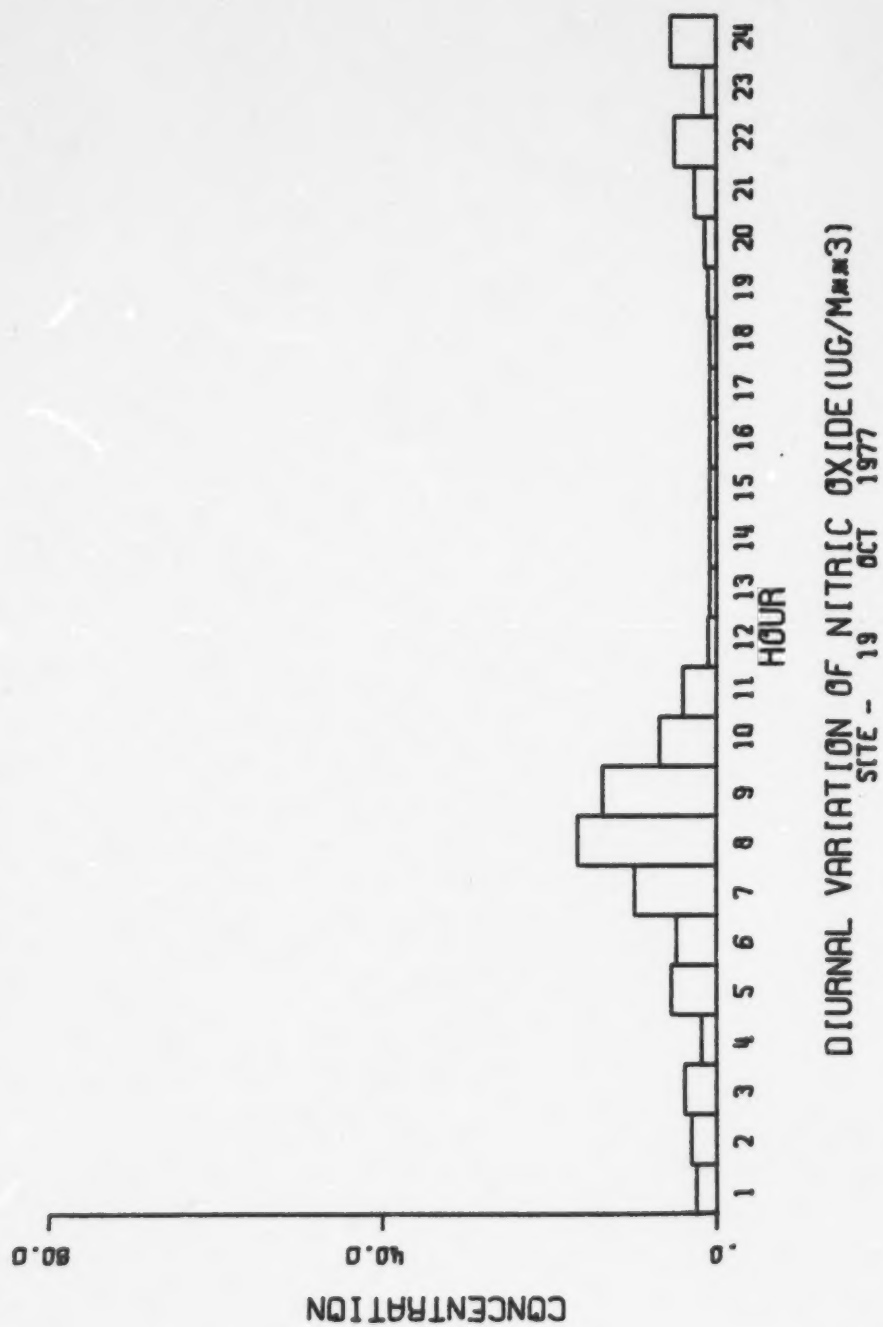


FIGURE 5.2-7

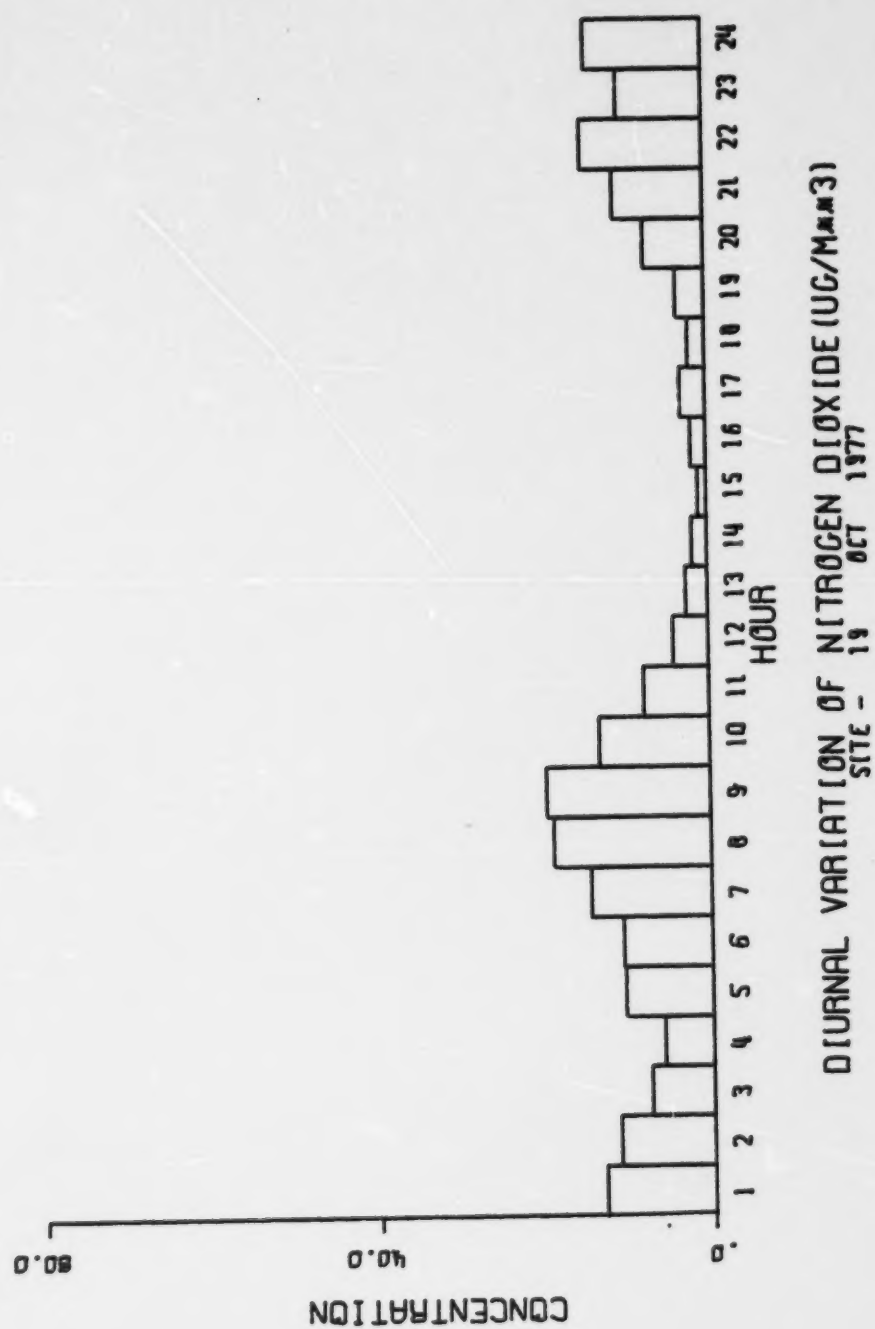


FIGURE 5.2-8

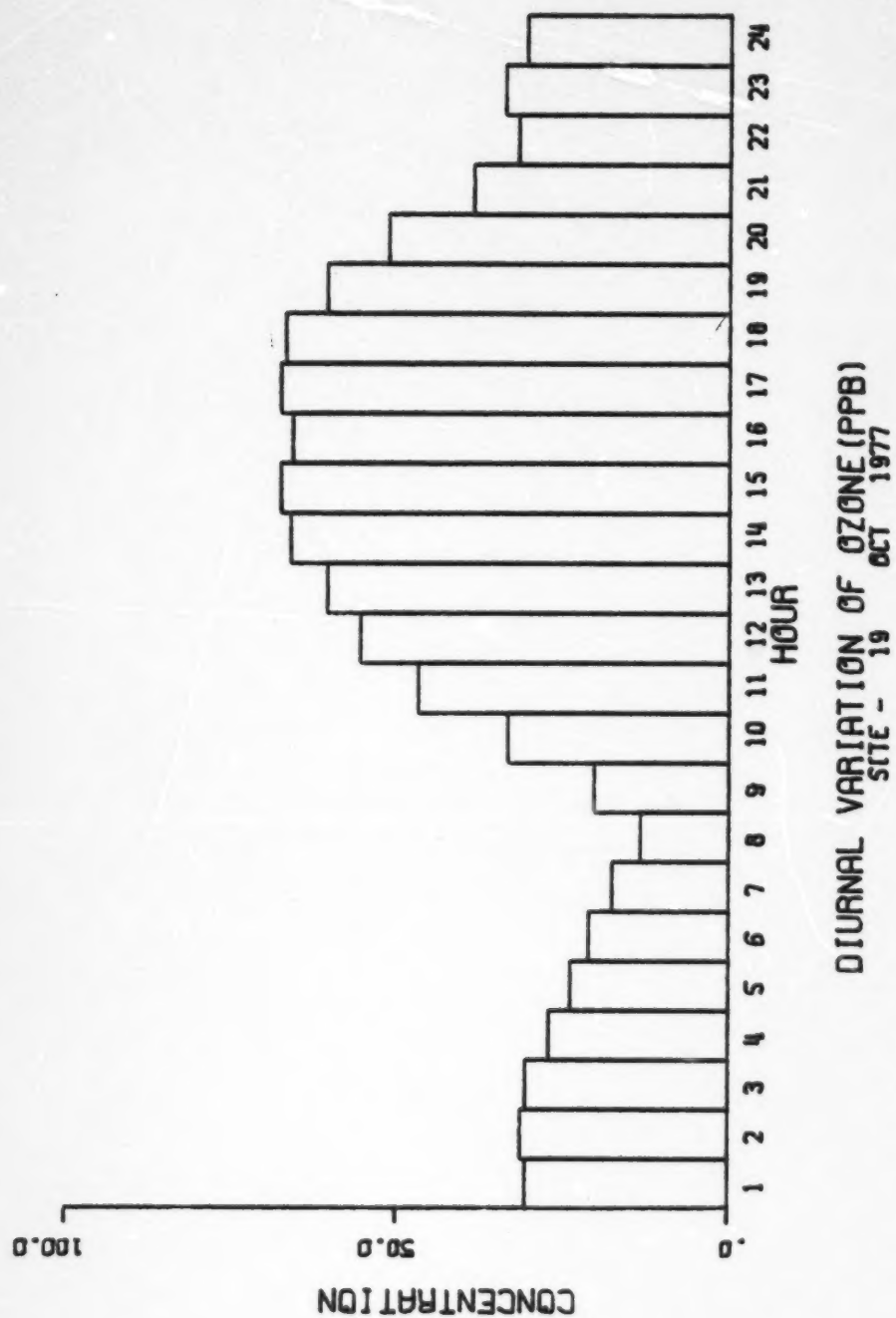
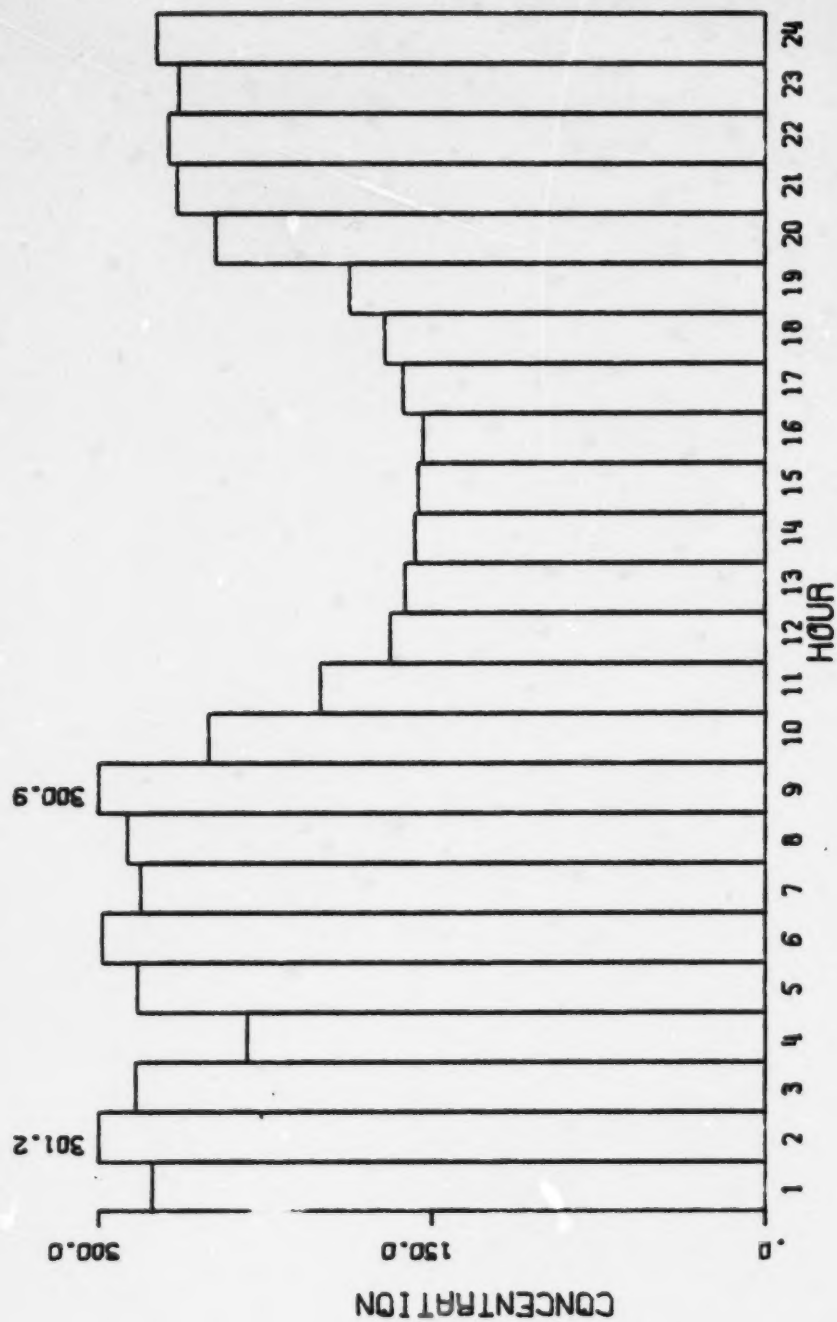


FIGURE 5.2-9



DIURNAL VARIATION OF TOTAL HYDROCARBONS (UG/MM³ X 10³-1)
SITE - 19 OCT 1977

FIGURE 5.2-10

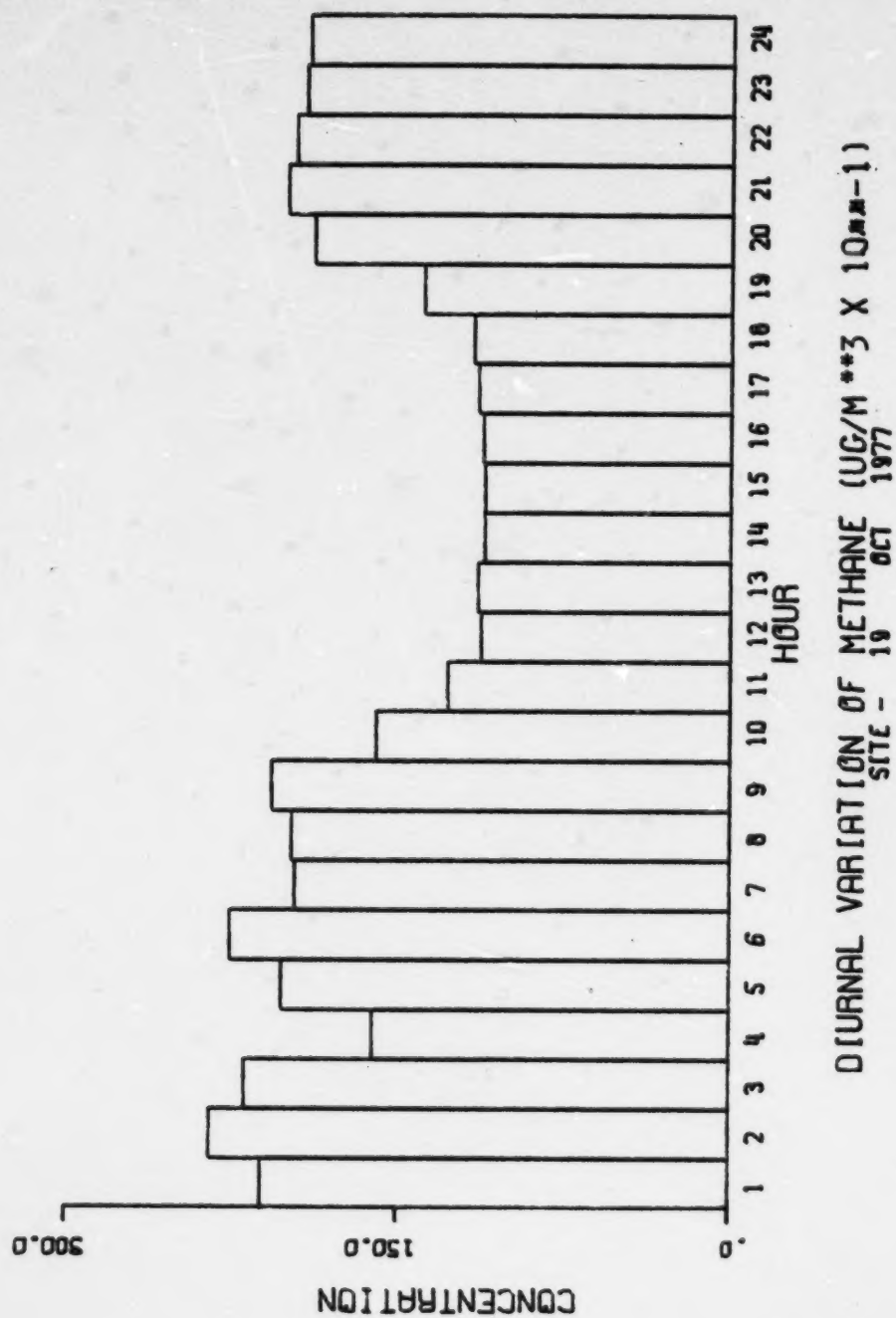


FIGURE 5.2-11

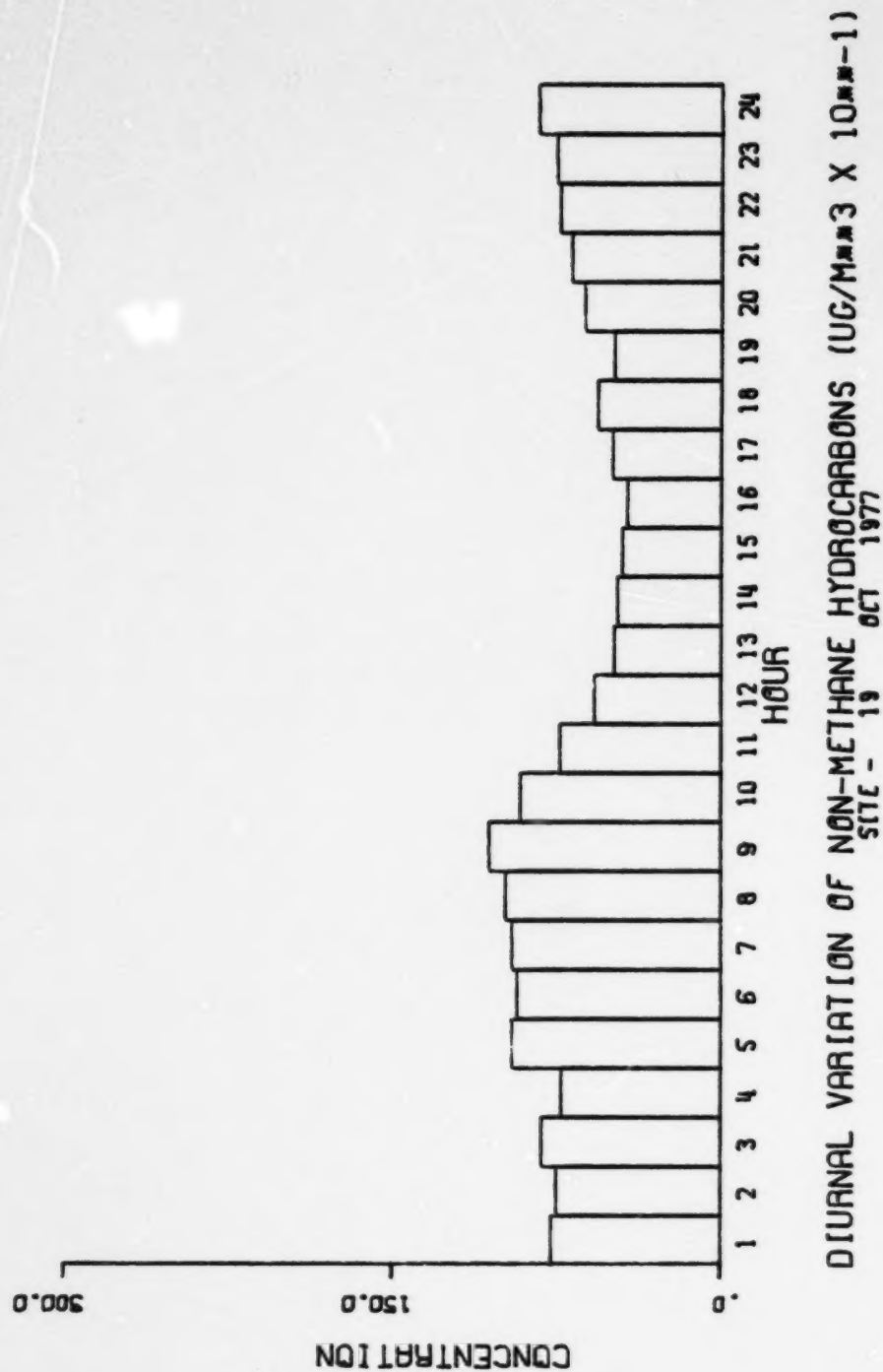


FIGURE 5.2-12

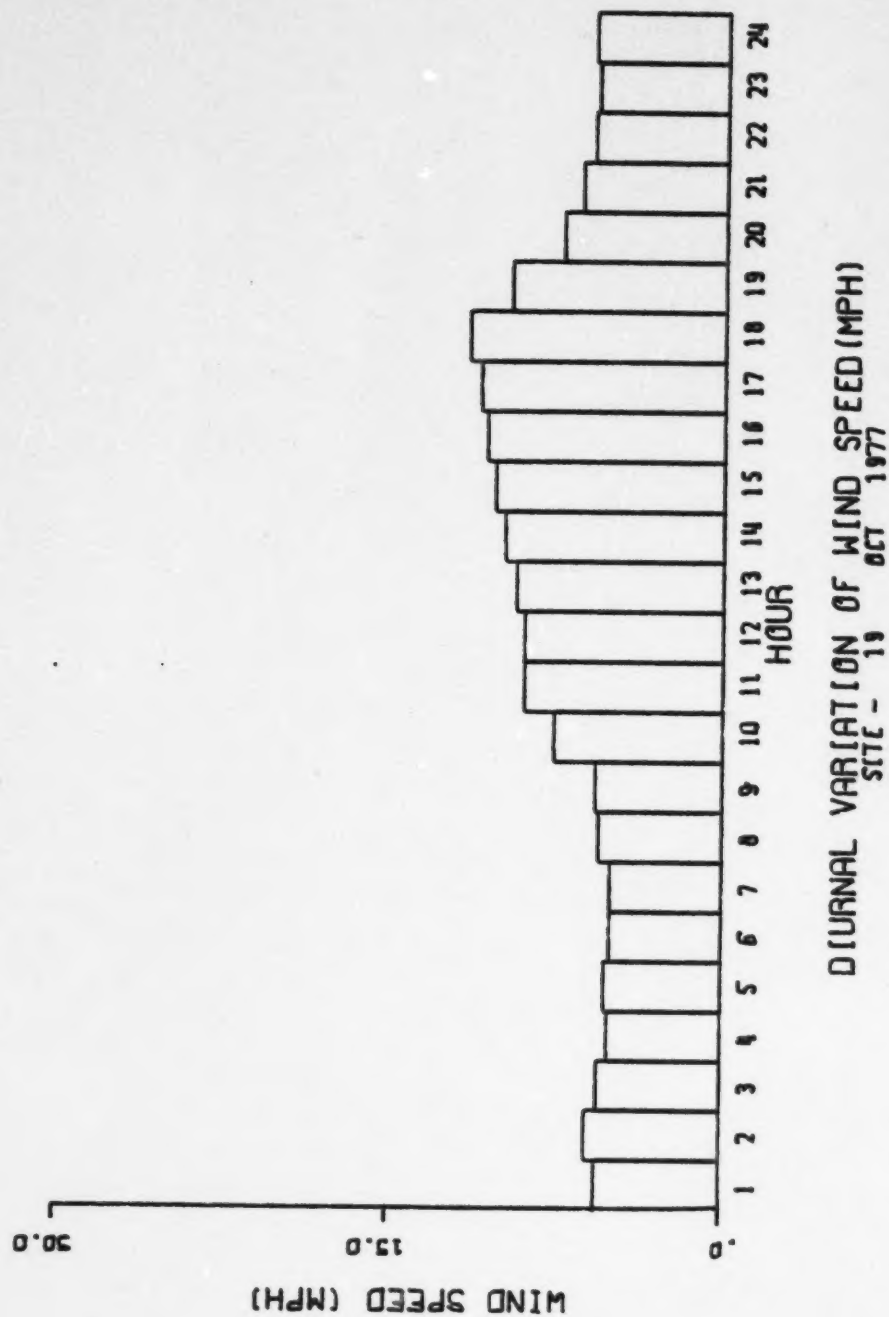


FIGURE 5.2-13

TABLE 5.2-19
WIND ROSE TABLE FOR BLOOMINGTON, TEXAS, FOR THE PERIOD 9/24/77 TO 11/7/77

GROUP MAX SPEED KNOTS	WIND DIRECTION															TOTAL
	N 16	NNE 14	NE 16	ENE 13	E 15	ESE 14	SE 18	SSE 17	S 18	SSW 14	WSW 10	M 13	MNW 16	NH 16	MNW 20	
GT 21	1															1
16 - 21	1						55	2	12						12	61
10 - 16	56	59	76	15	66	48	413	171	91	29	1	3	6	9	52	1497
6 - 10	148	288	271	89	197	231	544	482	98	39	4	43	74	95	152	2679
3 - 6	281	288	380	216	312	383	340	374	282	97	79	35	173	126	269	3552
LE 3	245	272	342	281	295	194	211	228	163	155	125	143	183	191	215	3417
TOTAL	730	819	1069	681	870	856	1563	1249	566	328	289	182	293	438	648	10826
PERCENT	7	8	10	6	8	8	14	12	5	3	2	2	3	4	6	100
.....																
TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE - 38(.20 x)																

TABLE 5.2-20
WIND ROSE TABLE FOR BLOOMINGTON, TEXAS, FOR THE PERIOD 10/1/77 TO 10/31/77

GROUP MAX SPEED KNOTS	N	NNE	NE	ENE	E	ESE	SE	SSE	S	WIND DIRECTION				W	WNW	NW	NNW	TOTAL	%
										SSW	SW	WSW	W						
GT 21	1																		0
16 - 21	1																	61	0
10 - 16	1	56	59	76	15	65	47	303	154	62	29	1		4	6	51	1	928	10
6 - 10	1	146	208	271	89	197	216	422	410	79	33	4	2	22	8	26	68	2201	24
3 - 6	1	261	277	379	212	273	331	275	277	154	75	42	15	40	32	58	156	2849	32
LE 3	1	190	268	341	273	251	181	192	210	154	142	103	95	83	112	128	140	2863	32
TOTAL	1	653	812	1067	589	786	775	1227	1053	461	279	150	112	145	156	210	427	8982	100
PERCENT	1	7	9	12	7	9	9	14	12	5	3	2	1	2	2	2	5		100
TOTAL NUMBER OF CALMS DISTRIBUTED ABOVE																			22(.22 %)

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

BLOOMINGTON

NITROGEN OXIDES

TRAILER NO. - 19 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³		WIND DIRECTION																TOTAL	
		N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW		CALM
GT	100	10	15	5	2	5	30	3	1					3	52	41	40	1	208
90 -	100	1	5	0	1	1	10	4	2					0	10	0	9	0	51
80 -	90	5	8	2	0	1	12	5	2					0	10	9	10	1	65
70 -	80	2	2	10	3	3	10	6	1	1				4	6	0	9	0	65
60 -	70	11	4	11	6	3	7	5	2	0			1	1	9	9	10	2	81
50 -	60	12	14	24	11	4	27	11	3	0	1	1	2	6	21	19	21	0	177
40 -	50	9	50	45	17	5	13	7	5	2	0	3	4	5	32	15	10	2	232
30 -	40	13	71	67	29	18	26	14	4	1	1	3	5	11	29	21	25	2	340
20 -	30	42	84	125	55	45	40	32	5	3	5	5	9	19	40	27	37	2	563
10 -	20	55	103	163	75	98	79	59	21	7	12	10	25	31	44	40	55	3	808
LT	10	547	431	506	314	514	398	1208	1090	527	209	160	130	205	165	200	393	16	7197
TOTAL		1	787	958	513	597	652	1434	1144	541	300	190	176	265	426	485	627	29	9807
MEAN		10.	10.	16.	13.	8.	20.	4.	2.	1.	2.	5.	7.	10.	44.	35.	24.	24.	13.

TABLE 5.2-21
POLLUTION ROSE TABLE FOR NO_x
BLOOMINGTON, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITRIC OXIDE

VICTORIA AND BLOOMINGTON

TRAILER NO. - 19 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³ GT	WIND DIRECTION																	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
90 - 100	4	0	2	1		3								35	19	14	1	86
80 - 90	1	1	0	0		2								2	10	4	1	20
70 - 80	0	0	1	1	1	2								6	2	6	1	22
60 - 70	0	5	2	0	1	3	1						1	6	9	7	0	35
50 - 60	1	3	0	0	0	1	0						0	8	5	6	1	25
40 - 50	6	4	2	1	3	5	0						4	7	5	10	1	48
30 - 40	3	4	3	1	0	11	2	1	1			1	1	9	8	8	0	53
20 - 30	5	7	9	4	2	0	1	1	1	0		1	2	11	10	13	0	76
10 - 20	9	14	17	14	8	20	4	1	1	0	2	5	20	20	18	16	1	150
LT	17	37	62	23	7	20	7	3	0	5	6	9	21	23	20	3	263	
TOTAL	661	784	868	468	675	576	1419	1139	538	382	198	168	263	381	296	521	22	9109
MEAN	3.	5.	3.	3.	2.	5.	6.	0.	0.	0.	0.	2.	3.	24.	18.	10.	4.	

TABLE 5.2-22

POLLUTION ROSE TABLE FOR NO

BLOOMINGTON, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

NITROGEN DIOXIDE

BLOOMINGTON

TRAILER NO. = 19 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³ GT 100 :	N	NNE	NE	ENE	E	ESE	SE	SSE	WIND DIRECTION				WSW	W	WNW	NW	NNW	CALM	TOTAL
									S	SSW	SW	SSW							
90 - 100 :							1	2						2	5	1		8	
80 - 90 :	2					6	7	3						8	4	4		11	
70 - 80 :	4	1			1	10	5	8	1					1	1	12		32	
60 - 70 :	2	4	3	4	4	14	4	2	8					6	9	10		62	
50 - 60 :	7	15	6	4	5	26	18	3	8					2	19	18	17	125	
40 - 50 :	13	11	20	6	7	32	9	4	8					6	37	23	13	21 106	
30 - 40 :	14	66	72	28	16	35	16	3	8					6	46	36	28	21 374	
20 - 30 :	39	139	146	56	35	48	32	5	2	1				6	10	29	41	21 717	
10 - 20 :	74	110	190	92	104	81	62	24	9	12	11	27	32	57	53	91	7	1836	
LT	552	441	521	325	525	399	1288	1898	529	295	175	134	218	169	212	399	16	7288	
TOTAL	787	787	958	513	697	652	1434	1144	541	388	196	176	285	426	485	627	29	9887	
MEAN	7.	13.	12.	10.	7.	15.	4.	2.	8.	1.	4.	6.	7.	28.	17.	14.	14.	8.	

TABLE 5.2-23

POLLUTION ROSE TABLE FOR NO₂

BLOOMINGTON, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

OZONE

TRAILER NO. - 19 PERIOD(9/24/77 TO 11/ 7/77)

VICTORIA AND BLOOMINGTON

CONCENTRATION PPH GT	N	NNE	NE	ENE	E	ESE	SE	SSE	WIND DIRECTION				NNW	NW	NNW CALM	TOTAL
									S	SSW	SW	WSW				
440 -				1	1	1			1							3
400 -				0	0	0			0							0
360 -				0	0	0		1	0							1
320 -				0	0	0	1	0	0							1
280 -				1	0	0	0	0	0							1
240 -	1			0	1	0	0	0	0							5
200 -	0			0	0	0	0	0	0							0
160 -	0			0	0	0	0	0	0							0
120 -	0	11	1	10	0	5	17	11		14	11	1				0
80 -	26	37	07	50	07	00	105	02	20	12	16	0	7	0	11	700
40 -	220	100	200	193	301	306	759	463	149	155	00	41	71	50	130	197
LT	455	571	600	300	413	409	535	572	342	141	00	110	200	362	262	421
TOTAL	710	705	1004	563	830	824	1405	1145	520	300	200	171	200	400	620	27
MEAN	36.	31.	39.	42.	47.	43.	45.	42.	30.	40.	47.	37.	20.	27.	30.	41.

TABLE 5.2-24

POLLUTION ROSE TABLE FOR O₃

BLOOMINGTON, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

TOTAL HYDROCARBONS

BLOOMINGTON

TRAILER NO. = 19 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³	N	NNE	NE	ENE	E	ESE	SE	SSE	WIND DIRECTION				W	WNW	NW	NNW	CALM	TOTAL
									S	SSW	SW	WSW						
GT 2400	177	194	283	184	276	442	268	137	84	46	59	85	143	251	187	175	11	2982
2200 -	71	44	48	27	27	45	41	18	13	17	16	22	28	48	25	39	0	521
2000 -	69	38	59	51	48	43	66	15	17	38	31	18	23	38	27	69	2	636
1800 -	57	59	45	41	61	38	184	44	61	27	22	5	9	18	18	62	0	671
1600 -	76	131	173	73	93	54	183	134	42	38	22	15	29	31	57	93	0	1236
1400 -	141	133	151	59	128	59	386	279	62	43	17	17	34	33	73	141	0	1658
1200 -	42	28	17	13	37	23	384	289	84	44	15	4	12	8	14	19	0	945
1000 -	5	3	1	0	1	2	115	223	156	23	0	1	4	1	1	1	2	639
800 -	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2
600 -	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
400 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 -	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LT 200	15	17	3	1	4	2	3	3	3	0	0	0	0	0	0	0	0	48
TOTAL	653	639	772	449	667	788	1391	1144	499	268	182	167	282	428	482	599	15	9249
MEAN	21.	22.	23.	26.	26.	33.	28.	17.	17.	19.	22.	27.	28.	28.	28.	24.	39.	23.

TABLE 5.2-25

POLLUTION ROSE TABLE FOR THC

BLOOMINGTON, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

METHANE

BLOOMINGTON

TRAILER NO. - 19 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³	WIND DIRECTION															
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	WW	NNW
GT 2400	52	70	101	87	98	200	198	85	18	11	18	38	65	68	188	71
2200	10	16	36	19	24	33	21	17	6	5	2	18	28	22	15	15
2000	11	13	57	46	59	37	27	12	9	6	7	9	13	22	9	14
1800	13	18	34	28	38	43	47	19	13	18	15	4	9	44	22	28
1600	24	26	47	26	47	44	69	22	14	9	18	13	19	54	21	22
1400	43	64	47	38	37	66	116	27	26	21	24	29	34	67	39	26
1200	185	73	83	68	96	98	188	68	57	54	53	31	38	68	68	79
1000	361	284	314	157	235	110	611	553	185	125	52	26	74	78	119	337
800	26	68	83	25	38	13	142	333	169	18	4	2	5	3	7	6
600	1	1	0	0	0	0	0	0	1	1	2	5	2	7	2	1
400	0	0	0	0	0	0	0	3	2	0	3	8	3	3	8	0
200	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
LT 200	15	17	3	1	4	2	4	4	0	0	0	0	0	8	8	0
TOTAL	661	843	885	471	668	719	1486	1144	598	268	182	167	282	428	482	599
MEAN	14.	15.	16.	19.	19.	25.	16.	13.	12.	13.	15.	18.	19.	18.	19.	15.

TABLE 5.2-26

POLLUTION ROSE TABLE FOR CH.

BLOOMINGTON, TEXAS

NUMBER OF FIVE MINUTE SAMPLES BY WIND DIRECTION AND LEVEL

BLOOMINGTON

NON-METHANE HYDROCARBONS

TRAILER NO. - 19 PERIOD(9/24/77 TO 11/ 7/77)

CONCENTRATION UG/M ³ GT 2400	WIND DIRECTION																	
	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	CALM	TOTAL
2200 - 2400	3	6	1	3	16	8	2	2	1	1			1	5	15	28	1	88
2000 - 2200	2	1	2	3	7	3	1	1	1				1	4	8	7	1	37
1800 - 2000	2	3	6	11	16	4	1	1	0				3	7	6	9	1	65
1600 - 1800	2	6	5	12	11	28	5	4	0		1		7	15	5	9	1	183
1400 - 1600	8	9	25	4	11	38	8	6	0	3	2		6	18	9	9	1	143
1200 - 1400	48	17	42	8	12	42	17	14	1	3	0		14	14	28	16	1	259
1000 - 1200	49	13	37	33	23	48	26	15	4	5	2		22	26	26	27	1	372
800 - 1000	65	58	52	58	71	81	43	29	22	21	33		42	73	49	61	5	882
600 - 800	183	131	138	75	98	95	58	38	48	37	58		59	128	49	94	1	1231
400 - 600	111	148	281	189	121	113	139	97	77	31	32		49	88	54	188	2	1481
200 - 400	155	181	285	92	147	122	295	249	78	56	32		43	46	111	155	0	1984
LT 200	85	48	49	41	118	76	561	575	289	76	27		23	35	48	81	0	2861
TOTAL	653	639	772	449	667	788	1391	1144	499	268	182		282	428	482	599	15	9249
MEAN	8.	7.	8.	8.	7.	9.	5.	4.	5.	6.	8.		9.	10.	9.	9.	11.	7.

TABLE 5.2-27

POLLUTION ROSE TABLE FOR NON-METHANE HYDROCARBONS

BLOOMINGTON, TEXAS

TABLE 5.2-28

THE 6-9 a.m. AVERAGE CONCENTRATIONS FOR TOTAL HYDROCARBONS
(THC), METHANE (CH₄) AND NON-METHANE HYDROCARBONS (NMHC)

September 24 - November 11

Bloomington, Texas

Date	THC		CH ₄		NMHC	
	($\mu\text{g}/\text{m}^3 \times 10^{-1}$)	ppm	($\mu\text{g}/\text{m}^3 \times 10^{-1}$)	ppm	($\mu\text{g}/\text{m}^3 \times 10^{-1}$)	ppm
9/24	111	1.69	90	1.38	21	0.32
9/25	111	1.69	69	1.06	42	0.64
9/26	-	-	-	-	-	-
9/27	240	3.67	184	2.82	57	0.87
9/28	294	4.50	199	3.04	94	1.44
9/29	156	2.39	-	-	-	-
9/30	130	1.99	94	1.44	37	0.57
10/01	120	1.84	88	1.35	32	0.49
10/02	281	4.30	215	3.29	65	0.99
10/03	164	2.51	106	1.62	58	0.89
10/04	-	-	-	-	-	-
10/05	-	-	-	-	-	-
10/06	245	3.75	141	2.16	104	1.59
10/07	211	3.23	131	2.00	80	1.22
10/08	240	3.67	179	2.74	62	0.95
10/09	165	2.52	101	1.55	64	0.98
10/10	282	4.31	200	3.06	83	1.27
10/11	306	4.68	225	3.44	78	1.19
10/12	194	2.97	115	1.76	79	1.21
10/13	369	5.65	147	2.25	222	3.40
10/14	-	-	-	-	-	-
10/15	-	-	-	-	-	-
10/16	266	4.07	117	1.79	150	2.30
10/17	-	-	448	6.85	-	-
10/18	352	5.39	193	2.95	159	2.43
10/19	243	3.72	178	2.72	65	0.99
10/20	369	5.54	223	3.41	146	2.23
10/21	349	5.34	238	3.64	111	1.70
10/22	206	3.15	127	1.94	79	1.21
10/23	280	4.28	181	2.77	98	1.50
10/24	226	3.46	143	2.19	82	1.25
10/25	393	6.01	274	4.19	119	1.82
10/26	439	6.72	309	4.73	130	1.99
10/27	467	7.15	346	5.29	121	1.85
10/28	357	5.46	262	4.01	94	1.44
10/29	420	6.43	313	4.79	107	1.64
10/30	305	4.67	220	3.34	85	1.30
10/31	273	4.18	206	3.15	68	1.04

TABLE 5.2-28 (Continued)

<u>Date</u>	<u>THC</u>		<u>CH₄</u>		<u>NMHC</u>	
	<u>($\mu\text{g}/\text{m}^3 \times 10^{-1}$)</u>	<u>ppm</u>	<u>($\mu\text{g}/\text{m}^3 \times 10^{-1}$)</u>	<u>ppm</u>	<u>($\mu\text{g}/\text{m}^3 \times 10^{-1}$)</u>	<u>ppm</u>
11/01	220	3.37	167	2.56	54	0.83
11/02	-	-	-	-	-	-
11/03	364	5.67	245	3.75	119	1.82
11/04	273	4.18	171	2.62	102	1.56
11/05	240	3.67	152	2.33	88	1.35
11/06	387	5.92	282	4.31	105	1.61
11/07	426	6.52	335	5.13	91	1.39

5.3 Bag Sampling Results

Bag samples were collected daily during the period from October 18 to November 3 at each station. Samples were collected in tedlar bags. The tedlar bags were stored in opaque plastic bags to prevent exposure to light.

The bags were transported to Austin for laboratory analysis. The results are presented in Tables 5.3-1 and 5.3-2 for Victoria and Bloomington, respectively. Values for THC are expressed as equivalent ppm or $\mu\text{g}/\text{m}^3$ CH_4 .

TABLE 5.3-1
6-9 A.M. BAG SAMPLE RESULTS FOR VICTORIA, TEXAS

<u>Date</u>	<u>THC</u>		<u>CH₄</u>	
	<u>μg/m³ x 10⁻¹</u>	<u>ppm</u>	<u>μg/m³ x 10⁻¹</u>	<u>ppm</u>
10/18	395	6.05	178	2.73
19	348	5.33	216	3.30
20	393	6.02	171	2.61
21	475	7.26	141	2.16
22	333	5.10	131	2.00
23	363	5.56	182	2.78
24	276	4.08	190	2.91
25	477	7.30	198	3.03
26	sample lost			
27	no THC measured		202	3.09
28	225	3.45	195	2.98
29	237	3.62	155	2.37
30	no sample taken			
31	297	4.54	156	2.39
11/01	261	4.00	123	1.88
02	241	3.68	108	1.66
03	243	3.72	144	2.20

TABLE 5.3-2
6-9 A.M. BAG SAMPLE RESULTS FOR BLOOMINGTON, TEXAS

<u>Date</u>	<u>THC</u>		<u>CH₄</u>	
	<u>μg/m³ x 10⁻¹</u>	<u>ppm</u>	<u>μg/m³ x 10⁻¹</u>	<u>ppm</u>
10/18	269	4.11	188	2.88
19	205	3.13	149	2.28
20	297	4.54	246	3.77
21	288	4.54	275	4.20
22	447	6.84	128	1.96
23	320	4.89	173	2.65
24	259	3.97	157	2.40
25	392	5.99	252	3.85
26	sample lost			
27	no THC measurement		346	5.29
28	528	8.08	301	4.60
29	686	10.5	347	5.31
30	no sample taken			
31	378	5.79	309	4.73
11/01	256	3.92	158	2.41
02	232	3.55	142	2.18
03	280	4.28	224	3.43